PERIODICAL ROOM
RECEIVED

THE BUILDER

A RECORD OF ARCHITECTURE & CONSTRUCTION

VOLUME CX. No. 3808.
Seventy-fourth Year.
Telephone: Regent 5940.

FRIDAY, JANUARY 28, 1916.
REGISTERED AT THE GENERAL POST OFFICE AS A NEWSPAPER.

PRICE FOURPENCE.
By Post, 5d.
Telegrams: The Builder, London.

THE WORSHIPFUL COMPANY of CARPENTERS.

Lectures on Arts at Carpenters' Hall, London Wall, E.C., illustrated by Lantern Photographs.

1916.
FEBRUARY 2.—By Lawrence Weaver, Esq., F.S.A. Subject: "Memorials and Monuments."
" 9.—By Arthur Gardner, Esq., M.A., F.S.A. Subject: "Sculptures of Rheims Cathedral."
" 16.—By William Strang, Esq., LL.D., A.R.A. Subject: "Some Movements in Modern Art."
" 23.—By Arthur Keen, Esq., F.R.I.B.A. Subject: "The English Roof."
MARCH 1.—By D. S. MacColl, Esq., LL.D., Keeper of the Wallace Collection. Subject: "The Work of Alfred Stevens."
" 8.—By W. Robert Cotton, Esq., A.R.A., late Professor of Sculpture in the A.R.A. Subject: "The Effect of War on Art."
" 15.—By H. J. L. J. Massé, Esq., M.A. Subject: "Seals."
" 22.—By H. Hughes-Stanton, Esq., A.R.A. Subject: "Landscape Painting."
" 29.—By Sir Krishna G. Gupta, K.C.S.I. Subject: "Indian Building, Ancient and Modern."
APRIL 5.—William Dawson, Esq., M.A., B.Sc., Cambridge University. Subject: "British Forestry Before and After the War."

The Lectures will be delivered on WEDNESDAYS, at 7.45 punctually. Admission free by ticket, to be obtained from the CLERK.

HOBBS, HART, & CO.'S
LOCKS
LOCKS
LOCKS
LOCKS
LOCKS
LOCKS
SECURITY.
DURABILITY.
ECONOMY.
76, CHEAPSIDE, E.C.

ARCHITECTS' WAR COMMITTEE.
THE PROFESSIONAL EMPLOYMENT COMMITTEE have under consideration certain schemes of work with a view to affording small temporary employment to Architects who are without work in consequence of the war. Applications can only be considered from British Architects dependent on their profession for a living, whose present difficulties are directly due to the war, and who are not eligible for military service. Applications should in the first instance be made to the HON. SECRETARY of the Professional Employment Committee of the Architects' War Committee, 28, Bedford Square, W.C.

BOYLE'S
LATEST PATENT
"AIR-PUMP"
VENTILATOR
Has double the extracting power of earlier forms and is one-half the price.
ROBERT BOYLE & SON,
84, HOLBORN VIADUCT, LONDON.

FIRE PROTECTION.
LONDON HYDRAULIC POWER CO., HATFIELD STREET, S.E.
Illustrated Pamphlet sent on application.

ELECTRIC LIFTS
Smith, Major, & Stevens, Ltd. LONDON & NORTHAMPTON.
(Late Archibald Smith & Stevens).

"THE" LIFT & HOIST Co.
Iron Fire-escape Staircase Makers.
THE "PREMIER" ENGINEERING WORKS, DEPTFORD, S.E.

TITAN LIFTS.
THE TITAN LIFT CO., Ltd.,
9-11, Eagle Street, Holborn, W.C. Telephone: 18191 CENTRAL.

LIFTS REVOLVING SHUTTERS. COLLAPSIBLE GATES.
DENNISON, KETT, & CO., LTD.,
Tel.: Bank 8356. 11, QUEEN VICTORIA ST., E.C.

WAYCOOD-OTIS LIFTS.
SAFE. FALMOUTH ROAD, S.E.

ASPHALTE. T.N.: 2241 Central.
THE SEYSSEL AND METALLIC LAVA ASPHALTE CO. (Mr. H. GLENN). Offices: 42, POULTRY, E.C.
ASPHALTE CONTRACTORS TO THE FORTH BRIDGE CO.
[See other Advt. last page of literary matter.

'CROID' Liquid SCOTCH GLUE. Used Cold. Damp Resisting. Labour Saving.
THE STRONGEST "CROID" GLUE KNOWN
"EXTRA" strength, on which our AEROPLANES depend for the safety of their Pilots.
"STANDARD" strength, as supplied for General Joinery, Cabinet Work, Veneering, Lino-Laying, etc.
Many tons are being used for AMMUNITION BOXES and other WAR WORK.
The Improved Liquid Glues Co., Ltd., Great Hermitage Street, LONDON, E.
CONTRACTORS TO H.M. GOVERNMENT.

PATENT "EWART'S" COPPER ROOFING
CHEAPER than Lead. Estimates and Drawings submitted.
346 EUSTON ROAD N.W.

ASTON CONSTRUCTION CO., LONDON, N. Ltd.
ASTON STEELWORK.
ASTON IRON STAIRCASES.
ASTON HOLLOW TILE FLOORS.
ASTON NORTH 1808 (3 lines).

"RELIANCE" BRAND
LEAD & BITUMEN DAMPCOURSE.
SAMPLES AND PRICES ON APPLICATION.
VULCANITE, LTD. { LONDON: 116, Cannon St., E.C. BELFAST: Lagan vale. MANCHESTER: Westinghouse Road, Trafford Park.

LOCKS AND BUILDERS' IRONMONGERY.
COLLEDGE & BRIDGEN,
MIDLAND WORKS, WOLVERHAMPTON.
London: 14, QUEEN ANNE'S CHAMBERS, S.W.

EASTON LIFT CO., Ltd.
EASTON NEW CUT, S.E.
EASTON HOP 4600 (3 lines).

THE ILLUSTRATION and UNDERLINES of "OLD LONDON BRIDGE," without the Calendar, carefully proofed on special paper.
Price 1s. each.
(By post, 1s. 1d.)
THE BUILDER LTD.,
4, Catherine Street, Aldwych, London, W.C.

Analysis of Advertisements.

For Alphabetical List of Firms appearing in this List and References to current Advertisements see Opposite page.

Art Metal Fittings:—
Art Metal Construction Co. Ltd.

Asbestos Tiles and Sheets:—
Bell's United Asbestos Co. Ltd.
Felber, Jucker, & Co.

Asphalte:—
Claridge's Asphalte Co. Ltd.
Engert & Rolfe, Ltd.
Faldo, T. & Co. Ltd.
Hobman, A. C. W. & Co. Ltd.
Limmer Asphalte Paving Co.
Seyssel & Metallic Lava Asphaltic Co.
Val de Travers Asphalte Co.
Vulcanite, Ltd.

Beaver Board:—
Beaver Board Co. Ltd.

Bells, &c.:—
Carr, Chas. Ltd.

Bitumen Sheeting:—
Callender, Geo. M. & Co. Ltd.
McNeill, F. & Co. Ltd.
Vulcanite, Ltd.

Blind Cords:—
Anchor Brand.

Blinds (Window, &c.):—
Dryden, John, & Sons
Francis, S. W. & Co. Ltd.
Haskins, S. & Bros.
Williams, G. A. & Son

Boiler and Economiser Settings:—
Chimneys, Ltd.

Bricks:—
Builders' Material Association.
Burley, C. Ltd.
Dennis, Henry
Doulton & Co. Ltd.
Leeds Fireclay Co. Ltd.
Rufford & Co.
Smeed, Dean, & Co. Ltd.
Terra-Cotta Co.

Brushes:—
Builders' Material Association
Nicholls & Clarke

Builders' Brasswork:—
Builders' Material Association
Francis, S. W. & Co. Ltd.
Haskins, S. & Bros. Ltd.
Nicholls & Clarke, Ltd.
O'Brien, Thomas, & Co.
Young & Marten, Ltd.

Builders' Ironmongery:—
Colledge & Bridgen
Nicholls & Clarke
O'Brien, Thomas, & Co.
Shaw & Carter, Ltd.
Young & Marten, Ltd.

Building Composition:—
Callender, Geo. M. & Co. Ltd.
Cabo Board
Thames Paper Co.

Carved Wood Decorations:—
Baillscombe & Harris

Castings:—
Carron Company
Haywards, Ltd.
Nicholls & Clarke, Ltd.
O'Brien, Thomas, & Co.
Thames Bank Iron Co. Ltd.

Ceilings:—
Battiscombe & Harris, Ltd.

Cement Guns:—
General Cement Gun Co.

Cement, Lime, Plaster, &c.:—
Associated Portland Cement Manufacturers (1900), Ltd.
British Portland Cement Manufacturers, Ltd.
Builders' Material Association
Burley, C. Ltd.
Greaves, Bull, & Laidla
Kaye & Co. Ltd.
Nelson, C. & Co. Ltd.
Smeed, Dean, & Co. Ltd.
Wouldham Cement Co. Ltd.

Cement Waterproofer:—
Kerner-Greenwood & Co. (Pudlo).

Chimney Cowls, &c.:—
Battiscombe & Harris, Ltd.
Ewart & Son, Ltd.
Nicholls & Clarke, Ltd.
O'Brien, Thomas, & Co.

Chimney Pieces (Marble), &c.:—
Nicholls & Clarke, Ltd.
O'Brien, Thomas, & Co.
Sessions & Sons, Ltd.
Young & Marten, Ltd.

Chimney Shafts:—
Chimneys, Ltd.
Furse, W. J.

Concrete (Reinforced):—
British Reinforced Engineering Co. Ltd.
Expanded Metal Co. Ltd.
Fram (London) Ltd.
King, J. A. & Co.

Concrete Piling:—
Simplex Concrete Piles, Ltd.

Contractors' Plant:—
Builders' Material Association
Lewis & Lewis, Ltd.
Palmer's Travelling Cradle and Scaffold Co.
Parker, F. & Co.
Reynolds, F. W. & Co.
Stephens & Carter

Cooking Apparatus:—
Carron & Co.
Nicholls & Clarke, Ltd.
O'Brien, Thomas, & Co.
Summerscales, W. & Sons

Damp Proof Courses:—
Callender, Geo. M. & Co. Ltd.
Doulton & Co. Ltd.
Engert & Rolfe, Ltd.
Hobman, A. C. W. & Co. Ltd.
Ironite Co. Ltd. (The)
Kerner-Greenwood & Co.
McNeill, F. & Co. Ltd.
Rogers, Welch, & Co. Ltd.
Seyssel and Metallic Lava Asphalte Co.
Vulcanite, Ltd.

Decorative Plaster:—
Battiscombe & Harris

Door Checks:—
Kenrick, A. & Sons, Ltd.

Doors (Iron, Steel, &c.):—
Dennison, Kett, & Co. Ltd.
Gibson, A. L. & Co.
Haywards, Ltd.
Hobbs, Hart, & Co. Ltd.
Lift and Hoist Co.
Tann, John, Ltd.

Door Hangers:—
Nicholls & Clarke, Ltd.
O'Brien, Thomas, & Co.
Parker, Winder, & Achurch
Shaw & Carter, Ltd.

Door Springs and Hinges:—
Colledge & Bridgen
Nicholls & Clarke, Ltd

Drawing and Tracing Offices:—
City of London and Finsbury Drawing Office

Electric Lamps:—
British Thomson-Houston Co. Ltd.

Electric Light Fittings:—
Tredegars, Ltd.

Electric Lighting:—
Tredegars, Ltd.

Electric Motors:—
British Thomson-Houston Co. Ltd.
Mather & Platt, Ltd.

Electricity:—
British Thomson-Houston Co. Ltd.
Croggon & Co. Ltd.
Mather & Platt, Ltd.
Tredegars, Ltd.

Endless Cords for Fanlight Openers:—
Anchor Brand.

Engines, Mortar Mills, &c.:—
Lewis & Lewis, Ltd.
Reynolds, F. W. & Co.

Facias, &c.:—
Francis, S. W. & Co. Ltd.
Nicholls & Clarke, Ltd.

Felt:—
Anderson, D. & Son, Ltd.
Engert & Rolfe, Ltd.
Gibson, A. L. & Co.
McNeill, F. & Co. Ltd.

Fencing (Wood &c.):—
Darlington Fencing Co.
Rowland Bros.

Fiberlic Board:—
MacAndrews & Forbes, Ltd.

Fire Escapes, Staircases:—
Clark, Hunt, & Co. Ltd.
Davis, H. & C. & Co. Ltd.
Haywards, Ltd.
Lift and Hoist Co.

Fire Protection Equipment:—
Art Metal Construction, Ltd.
Mather & Platt, Ltd.

Fire-Resisting Glazing:—
British Luxfer Prism Synd.
Haywards, Ltd.
King, J. A. & Co.

Fireproof Flooring, &c.:—
Bell's United Asbestos Co. Ltd.
Dawnay, A. D. & Sons, Ltd.
Expanded Metal Co. Ltd.
Haywards, Ltd.
Ironite Co. Ltd.
King, J. A. & Co.
Kleine Pat. Flooring Co. Ltd.

Flint Paper:—
Oakey, J. & Sons, Ltd.

Floor Furnishing & Polishing
Ronuk, Ltd.

Floor Hardener:—
Trus-Con Laboratories

Flooring and Paving:—
Acme Paving and Flooring Co. (1904), Ltd.
British Dolomeat Co. Ltd.
Ironite Co. Ltd.
Stevens & Adams

Folding Partitions:—
Lift and Hoist Co.
Shaw & Carter, Ltd.

Furnace Builders:—
Chimneys, Ltd.

Garden Hose:—
Wilcox, W. H. & Co. Ltd.

Gates (Collapsible):—
Dennison, Kett, & Co. Ltd.
Haywards, Ltd.
Lift and Hoist Co.

Gates, Railings (Iron), &c.:—
Bayliss, Jones, & Bayliss, Ltd.
Carron Company
Haywards, Ltd.
Nicholls & Clarke, Ltd.
O'Brien, Thomas, & Co.
Young & Marten, Ltd.

Glass (Plate and Window):—
British Luxfer Prism Synd.
Farmiloe, G. & Sons, Ltd.
Haywards, Ltd.
Jennings, C. & Co.
King, J. A. & Co.
Newton, J. M. & Sons, Ltd.
Nicholls & Clarke
Young & Marten, Ltd.

Glass Paper, Emery Wheels:—
Oakey, J. & Sons, Ltd.

Glass (Stained, Painted, &c.):—
British Luxfer Prism Synd.
Farmiloe, G. & Sons, Ltd.
Haywards, Ltd.
King, J. A. & Co.
Morris, W. & Co. Ltd.
Newton, J. M. & Sons, Ltd.
Nicholls & Clarke

Glazing:—
Braby, F. & Co. Ltd.
British Luxfer Prism Synd.
Grover & Co. Ltd.
Haywards, Ltd.
Helliwell & Co. Ltd.
King, J. A.) & Co.
Nicholls & Clarke, Ltd.
Partridge, T. & Co.

Glue (Liquid):—
Improved Liquid Glues Co. Ltd.

Granite:—
De Lank Granite Quarries, Ltd.

Heating and Lighting:—
British Commercial Gas Association
Chimneys, Ltd.
Clark, Hunt, & Co. Ltd.
Ewart & Son, Ltd.
Hartley & Sugden, Ltd.
Haywards, Ltd.
King, J. A. & Co.
Messenger & Co.
Nicholls & Clarke Ltd.
Norris, F. A. & Co.
O'Brien, Thomas, & Co.
Shorland, E. H. & Bro. Ltd.
Thames Bank Iron Co. Ltd
Tredegar & Co.

Horticultural Buildings:—
Messenger & Co.

Hydraulic Power:—
London Hydraulic Power Co.

Insurance:—
British Dominions General Insurance Co. Ltd.
London and Lancashire Fire Insurance Co. Ltd.
Norwich Union

Ironite:—
Ironite Co. Ltd

Joinery, Mouldings, &c.:—
Jennings, C. & Co.
Ogilvie & Co.
Orfeur, C. E. Ltd.
Sessions & Sons, Ltd.
Tucker, W. Duncan, & Sons

Ladders:—
Builders' Material Association
Parker & Co.
Stephens & Carter

Laundry Appliances:—
Bradford, T. & Co. Ltd.
Carron Company
Cherry Tree Machine Co.
Summerscales, Ltd.

Lead, Oil, Colours, Size, &c.:—
Builders' Material Association
Farmiloe, G. & Sons, Ltd.
Girdler J. & Co.
Nicholls & Clarke
Young & Marten, Ltd.

Letters, &c.:—
Francis, S. W. & Co. Ltd.

Lifts, Hoists, Cranes, &c.:—
Bryden, John, & Sons
Dennison, Kett, & Co. Ltd.
Easton Lift Co. Ltd.
Haskins, S. & Bros. Ltd.
Lewis & Lewis, Ltd.
Lift and Hoist Co.
Smith, Major, & Stevens, Ltd.
Titan Lift Co. Ltd.
Waygood-Otis, Ltd.

Lightning Conductors:—
Anderson, R. & Co.
Croggon & Co. Ltd.
Furse, W. J.

Lithography:—
Allday, Ltd.

Locks, Latches and Furniture:—
Colledge & Bridgen
Hobbs, Hart, & Co. Ltd.
Nicholls & Clarke, Ltd.
Shaw & Carter, Ltd.

Marble:—
Moore, M. & R.

Metal Casements:—
British Luxfer Prism Synd.
Haywards, Ltd.
Nicholls & Clarke, Ltd.

Mill Mortar:—
Builders' Material Association

Models:—
London Drawing & Tracing Office

Mosaic Work:—
Boote, T. & R. Ltd.
Maw & Co. Ltd.
Moore, M. & R.
Stevens & Adams

Mouldings:—
Jennings, C. & Co.
Tucker, W. Duncan, & Sons

Paints, Stains, Varnish, &c.:—
Builders' Material Association
Clark, Robert Ingham, & Co.
Farmiloe, G. & Sons, Ltd.
Farmiloe, T. & W. Ltd.
Nicholls & Clarke
Stand-Fast Paint Co.
Stephens, H. C.
Young & Marten, Ltd.

Parquet Flooring:—
Anglo (All British) Parquet Co.
Bassant, H. & Co.
Cambridge Wood Block and Parquetry Co. Ltd.
Damman & Washer, Ltd.
Stevens & Adams

Partitions, Slabs, &c.:—
Beaver Board Co. Ltd.
British Uralite Co. (1906)
Builders' Material Association
Expanded Metal Co. Ltd.
Jones, Fredk. & Co. Ltd.
King, J. A. & Co.
MacAndrews & Forbes, Ltd.
Muribloc (Partition Slabs), Ltd.

Pavement, &c., Lights:—
British Luxfer Prism Synd.
Haywards, Ltd.
King, J. A. & Co.
Nicholls & Clarke, Ltd.
O'Brien, Thomas, & Co.
Young & Marten, Ltd

Picture Cords:—
Anchor Brand.

Plaster Work:—
Battiscombe & Harris, Ltd.

Pumps, Pumping Engines, &c.
Braby, F. & Co. Ltd.
Mather & Platt, Ltd.
Nicholls & Clarke, Ltd.
Phœnix Engineering Co. Ltd.
Pulsometer Engineering Co.
Willcox, W. H. & Co. Ltd.

Rain-Water Heads and Pipes:—
Builders' Material Association
Carron Company
Nicholls & Clarke, Ltd.

Roofing (Felt):—
Anderson, D. & Son, Ltd.
McNeill, F. & Co. Ltd.
Seyssel and Metallic Lava Asphalte Co.

Roofing (Tile):—
Anderson, D. & Son

Roofing (Ruberoid):—
Ruberoid Co. Ltd. (The)

Roofing (Vulcanite):—
Vulcanite, Ltd.

Rooflights:—
Messenger Bros. Ltd.

Roofs (Zinc and Copper):—
Braby, F. & Co. Ltd.
Ewart & Son, Ltd.

Roofs and Buildings (Iron and Steel):—
Croggon & Co. Ltd.
Findlay, A. & Co. Ltd.
Haywards, Ltd.
Shaw, M. T. & Co.

Safes:—
Hobbs, Hart, & Co. Ltd.
Tann, John, Ltd.

Sanitary Appliances and Ware:—
Andrew & Nanson
Builders' Material Association
Burn Bros.
Dennis, Henry
Doulton & Co. Ltd.
Farmiloe, G. & Sons, Ltd.
Haywards, Ltd.
Leeds Fireclay Co. Ltd.
Nicholls & Clarke
O'Brien, Thomas, & Co.
Rufford & Co.
Sessions & Sons, Ltd.
Thames Bank Iron Co. Ltd.
Young & Marten, Ltd.

Sash Lines, Cords, &c.:—
Anchor Brand

Scaffolding:—
Builders' Material Association
Humphries Patent Bracket & Scaffold Syndicate, Ltd.
Palmer's Travelling Cradle and Scaffold Co.
Parker, F. & Co.
Patent Rapid Scaffold Tie Co.
Stephens & Carter

Shop Fronts (Metal and Wood):—
Francis, S. W. & Co. Ltd.
Haskins, S. & Bros. Ltd.
Jennings, C. & Co.

Shutters:—
Dennison, Kett, & Co.
Francis, S. W. & Co. Ltd.
Gibson, A. L. & Co.
Haskins, S. & Bros. Ltd.
Lift and Hoist Co.

Signs:—
Francis, S. W. & Co. Ltd.

Silicate Cotton:—
Jones, F. & Co. Ltd.
McNeill, F. & Co. Ltd.

Slag Wool:—
Jones, Fredk. & Co. Ltd.
McNeill, F. & Co. Ltd.

Slates:—
Builders' Material Association
Etridge, J. J. Jnr.
Morris, M. E.
Sessions & Sons, Ltd.

Sprinklers (Automatic):—
Mather & Platt, Ltd.

Stable, &c., Fittings:—
Carron Company
Haywards, Ltd.
Musgrave & Co. Ltd.
Nicholls & Clarke, Ltd.
O'Brien, Thomas, & Co.
Young & Marten, Ltd.

Stair Treads:—
Safety Tread Syndicate, Ltd.

Staircases, Verandahs, &c.:—
Art Metal Construction, Ltd.
Aston Construction Co.
Carron Company
Davis, H. & C. & Co.
Haywards, Ltd.
Lift and Hoist Co.
Nicholls & Clarke, Ltd.
O'Brien, Thomas, & Co.

Stone:—
Bath and Portland Stone Firms, Ltd.
Clipsham Quarry Co.
Ham Hill & Doulting Stone
Pawson Bros. Ltd.
Yeckney and Harthaun Park Stone Co. Ltd.

Stone Preservative:—
Bath and Portland Stone Firms, Ltd.
Tribe & Co.

Stoves, Ranges, Mantels, &c.:—
Candy & Co. Ltd.
Carron Company
Doulton & Co. Ltd.
Enteroven Stove Co. Ltd.
Nicholls & Clarke, Ltd.
O'Brien, Thomas, & Co.
Sessions, J. & Sons
Shorland, E. H. & Bro. Ltd.
Young & Marten, Ltd.

Strong Rooms:—
Hobbs, Hart, & Co. Ltd.
Tann, John, Ltd.

Structural Iron and Steel:—
Aston Construction Co.
Clark, Hunt, & Co. Ltd.
Davis, H. & C. & Co.
Dawnay, A. D. & Sons, Ltd.
Haywards, Ltd.
Henderson & Glass
Lift and Hoist Co.
Shaw, M. T. & Co.

Surveying Instruments:—
Clarkson's
Stanley, W. F. & Co. Ltd.

Tanks, Cisterns, &c.:—
Braby, F. & Co.
Builders' Material Association
Croggon & Co. Ltd.
London Galvanised Iron Co.
Mather & Platt, Ltd.
Nicholls & Clarke, Ltd.
Shaw, M. T. & Co.
Thames Bank Iron Co. Ltd.

Tar Boilers:—
Phœnix Engineering Co. Ltd.

Terra Cotta:—
Dennis, Henry
Doulton & Co. Ltd.
Leeds Fireclay Co. Ltd.
Terra-Cotta Co.

Tiles:—
Boote, T. & R. Ltd.
Dennis, Henry
Doulton & Co. Ltd.
Leeds Fireclay Co. Ltd.
Maw & Co. Ltd.
Minton, Hollins, & Co.
Woolliscroft, G. & Son Ltd.

Timber:—
Gliksten, G. & Son Ltd.
Jennings, C. & Co.
Friday, Sydney
Sessions & Sons, Ltd.
Young & Marten, Ltd.

Time Recorders:—
National Time Recorder Co.

Tyres:—
Dunlop Rubber Co.

Underlining, &c.:—
Engert & Rolfe, Ltd.
McNeill, F. & Co. Ltd.
Vulcanite, Ltd.

Ventilating:—
Boyle, R. & Son
Ewart & Son, Ltd.
Haywards, Ltd.
O'Brien, Thomas, & Co
Shorland, E. H. & Bro. Ltd.

Wall and Ceiling Covering:—
Nicholls & Clarke
O'Brien, Thomas, & Co.
Thames Paper Co.

Water Bars:—
Clark, Hunt, & Co. Ltd.

Water Heaters:—
Ewart & Son, Ltd.

Waterproofing:—
Callender, G. M. & Co Ltd.
Ironite Co. Ltd.
Kerner-Greenwood & Co. (Pudlo).
Rogers, Welch, & Co. Ltd.
Tribe & Co.
Trust-Con Laboratories
Vulcanite, Ltd.

Water Towers:—
Chimneys, Ltd.

Window Frames and Sashes:—
Braby, F. & Co. Ltd.
Carron Company
Clark, Hunt, & Co. Ltd.
Hayward Bros. & Mountain
Young & Marten, Ltd.

Window Guards:—
Lift and Hoist Co.

Wine Bins (Iron):—
Farrow & Jackson

Wiring:—
Tredegars, Ltd.

Wire Rope:—
Palmer's Travelling Cradle Co.

Wood Electric Fittings:—
Tredegar & Co. Ltd.

Wood Flooring:—
Acme Flooring and Paving Co. (1904) Ltd.
Anglo (All British) Parquet Co.
Bassant, H. & Co.
Jennings, C. & Co.
Stevens & Adams
The Zeta Wood Flooring Co.

Wood Working Machinery:—
Lewis & Lewis, Ltd.
Reynolds, F. W. & Co.

LIFTS

¶ Why do Architects prefer our automatic lifts? Because they save them trouble and do not get out of order, and occupy less space than other machines of the type.

SMITH·MAJOR & STEVENS
LATE A. SMITH & STEVENS LTD
LONDON & NORTHAMPTON

THE BUILDER

A RECORD OF ARCHITECTURE AND CONSTRUCTION.

VOL. CX.—No. 3808. JANUARY 28, 1916.

THE MONUMENTS OF OUR PROVINCIAL TOWNS:

I.—LIVERPOOL—(*continued*).

LEAVING St. John's Gardens and proceeding up London-road, the monument to George III. is seen placed upon an excellent site. London-road branches into two parts here, leaving a triangular space of green in the centre. At the front of this is placed the monument. The base is surrounded by a flower-bed set in a piece of lawn, often in very bad condition, but, at any rate, in existence. Unfortunately it is deemed necessary to place an ugly railing around the whole of this and also to construct the entrance to a public convenience behind. It is much to be deplored that so many of the monuments in different parts of the country are defaced in this manner.

The statue itself, erected in 1810, is of the Greek type which prevailed at the time, with a plain severe pedestal of granite crowned by an echinus mould of large projection. The horse has little action, and the absence of trappings gives it a somewhat bare and cold appearance. The statue of George III. is likewise commonplace. Although the horse is well proportioned to the pedestal, the general impression given is one of smallness of scale, and shows how important it is to have actual bulk when dealing with equestrian groups.

Other old statues, which do not need more than passing comment, are the Huskisson statue outside the Custom House and Hugh Stowell Brown in Myrtle-street.

The former is a bronze statue upon a plain die almost devoid of mouldings. The position of this group is its best feature, and the contrast given by the columns of the portico behind shows how excellent such a placing is, giving distinction to the most commonplace sculpture. Hugh Stowell Brown is a marble statue upon a Hopton Wood stone base. It is a representation of a typical Nonconformist minister of the nineteenth century, arrayed in a frock-coat and treated in a manner quite devoid of interest or spirit. The sculptor was F. S. Williamson and the date 1889.

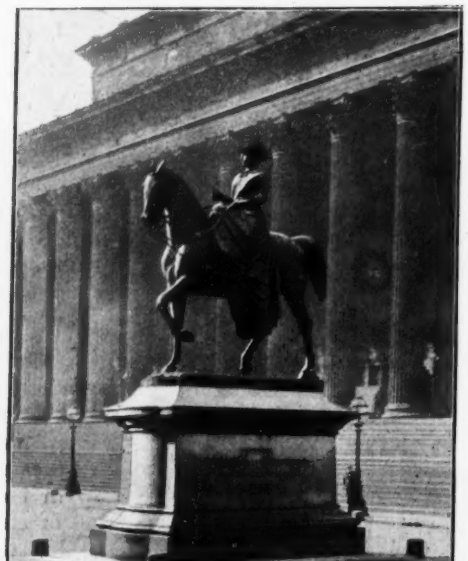
Next might be considered the monument to Nelson by Westmacott on Exchange flags. The base of this group is a really excellent piece of composition, the fine swing of the circle below being steadied by the grouping of the four chained slaves of the centre part and the rich bronze bas-relief panels between. The design has all the attraction of originality, and the interest is well maintained by the detail of the sculpture upon the lower part. Even the inscription adds to the richness of the whole. The lettering of the famous Admiral's command can be seen around the top, and seems designed in beautiful sympathy with the general scheme. The only element of weakness is perhaps the allegorical group of the death and translation of Nelson. Falling figures such as this are always unsatisfactory, but, although the problem of creating a group to crown so large a mass was not easy of solution, it should not have been insurmountable. Altogether this monument possesses a degree of vigour and interest quite unexpected and unusual for this period, and should be accorded high appreciation.

If previously any man has contented himself with the assurance that English sculpture and monumental design have been steadily improving for the last fifty years, he should walk from this monument about one hundred yards down the thoroughfare immediately opposite to the Queen Victoria Memorial in Lord-street. This is a scheme for any feature of which it is difficult to find a word of praise. A high steep flight of steps leads up from the island paving to a platform from which rises a canopy upon four groups of Ionic columns. Beneath this canopy is placed the figure of Queen Victoria, standing. The steps are divided into four sections by means of curved balustrades and walls, with a bronze group in the centre of each. The whole of the architectural portion of the scheme is bad. The steps look heavy and uncomfortable, the vases which crown the balustrade are most unshapely, and the whole of the canopy can be brought under the same ban. If, as is sometimes the case, this were relieved by really good modelling, some pleasure at least could have been gained from its contemplation, but the modelling is unfortunately very little above the level of the architecture. The Queen looks a coarse, heavy figure, totally devoid of majesty or regal suggestion. The symbolic groups—there is nothing, by the way, to say of what they are symbolic—are certainly better, but even they are not upon a high level. The best is illustrated in the photograph.

This monument is the more to be regretted because the site is more than reasonably good for an old city already fully built upon. It is in the centre of the town in a wide open space, the roads upon two sides rising towards it at a steep gradient, giving it the immense advantage of a commanding situation. Nor has money been stinted, for, although it has so many faults, parsimony is not one of them. Not only is there much work above ground, but a large and weighty structure such as this requires an expensive foundation, and in Liverpool, although a great deal is rock, the foundation is not always of the best. Altogether the Queen Victoria Memorial as a work of art, an example of modern sculpture, is most deplorable.

It is a pleasure to turn from this to Sir George Frampton's very beautiful little group erected to the memory of Sir Alfred Lewis Jones, and erected facing the River Mersey. No doubt there was adequate reason, but it seems somewhat curious that the site—which is a small open space laid out with grass plots—should have the portion allotted to the statue upon one side. The lay-out seems hardly large enough to contemplate the erection of three monuments, and, if that were so, the centre one, to form them into a scheme, ought to be large enough to dominate the other two. Another monument the size of this, and a much larger group, all in the compass of a hundred yards or a little more, is practically an impossibility. As the scheme stands at present the placing has a most one-sided appearance. The monument itself, however, is quite an excellent piece of design, particularly in respect to the way in which the bronze-work is connected to the masonry. The quasi-Gothic feeling of the crowning figure is very characteristic of the sculptor, and is here also in good relation to the type of architecture adopted. The detail of all three figures is extremely interesting, and they portray very well the subjects they are intended to represent. The near figure is called "Research" and the far one "Fruits of Industry." The crowning figure represents "Enterprise," and there is a ship at the back which may be coupled with this in its interpretation.

Sefton Park is famed as one of the fine open spaces of the Liverpool people, and in it has been found a site for a monument to William Rathbone. In the centre of the park there is a large lake, long rather than broad in shape, and winding in its length. Near the centre of this is a large promontory of land rising steeply from the water to a considerable height. Upon this promontory is placed the statue. From the waterside a

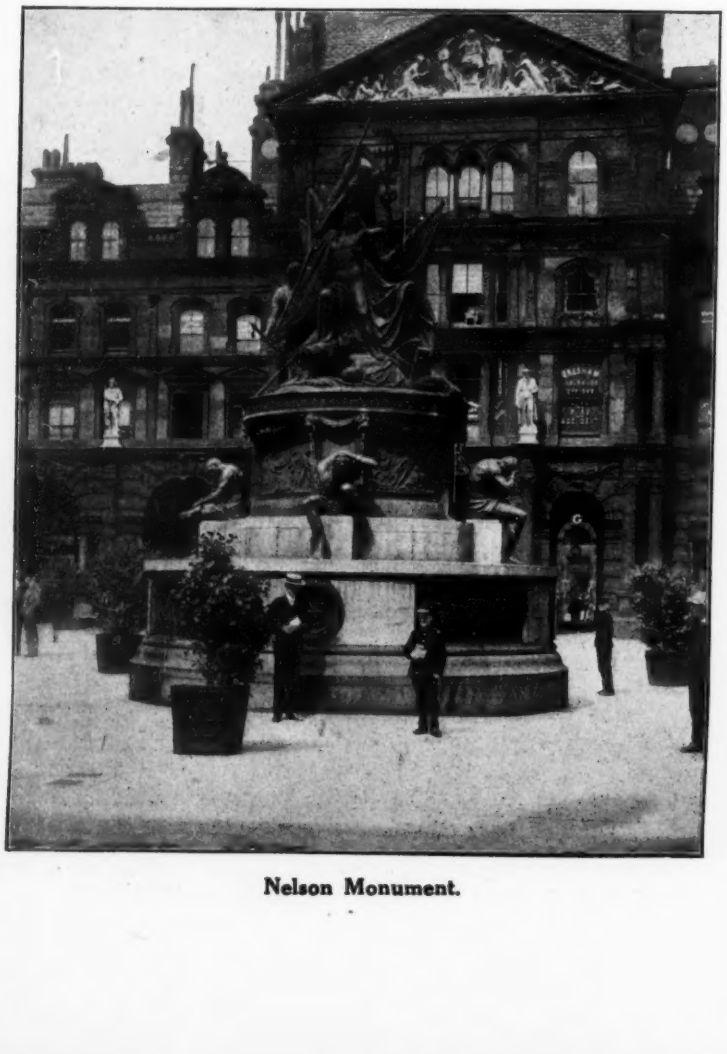


Queen Victoria Monument. 1869.

William Rathbone Monument, Sefton Park.

Sir Alfred Lewis Jones Monument.

better situation could hardly have been found, but from the land side it is not quite so satisfactory. Although a main path leads up close to it, the actual scheme is not incorporated with the path as it should be. It ought to form an extension at the side, creating a vista as the pedestrian rises up the slope, a break and centre of interest in the ordinary scheme of trees and lawn which border the path for most of its length. Instead of this, there is a short, winding, narrow connecting-link which quite cuts off the view of the monument until the visitor comes out upon the flat plateau which surrounds the base of the group. The statue itself has several points of interest. It is not a contemporary group, but was designed by J. H. Foley, R.A., about 1868, and is for its time quite a good piece of work.



Nelson Monument.

It should here be noted that the general schemes of these old monuments are, as a rule, good; it is the detail of the modelling which is often so tame, stiff, and commonplace. In modern work the exact reverse is generally the rule—the modelling has plenty of life and vitality, but the scheme is frequently weak in conception and displays a serious lack of architectural knowledge.

Here it will be felt at once that the general composition, although showing the lack of freedom consequent upon the pedantic revival of Greek architecture, is yet well balanced and good in proportion and in the relation of the crowning figure to the whole. The attitude of this figure possesses the elements of dignity and a certain naturalness of pose which are commendable. The bas-reliefs are the weakest portion, and exhibit a lack of scale, suggesting little figures rather than life-size men modelled to a small scale. They are, moreover, designed in the high relief peculiar to the time, which has nothing of the interest of variation so successfully imparted to much of the French work of the same period, and which is indeed often found in their work of the present day. The figure of William Rathbone, which crowns the monument, is in marble, the pedestal in granite, and the panels in bronze.

One other monument remains to be mentioned—that erected to the memory of Florence Nightingale. It has only recently been completed, and stands at the corner of Upper Parliament-street. Its size is not particularly great, but it is noteworthy as a departure from the usual type of design adopted in this country.

The main feature is a small Ionic entablature, with pilasters

Florence Nightingale Monument.

and a vertical panel on either side, each panel being carved with a laurel wreath surrounding a palm-branch and containing an inscription. In the centre, under the entablature and between the pilasters, is a bas-relief in marble representing a woman ministering to a wounded man. Wing walls are designed upon either side, with stone seats at the base and terminated by square piers. The whole group forms part of the boundary defining the road at this point, and makes a most interesting feature. Its position gives it due prominence without any suggestion of ostentation. The Greek feeling displayed in the composition and detail carries on the tradition established by St. George's Hall, and thereby makes it essentially part of its surroundings.

The interest displayed by the Liverpool people in the lives of their fellow-men, the beautifying of their city, and the employment of the arts of architecture and sculpture is worthy of the highest praise. The patron is necessary to the production of great works just as is the great artist, and even the humble subscriber to a memorial scheme should receive his quota of thanks from the professions which strive to supply something that will elevate the mind by an object of beauty and human appeal, besides possessing qualities which make the monument desirable for its own sake. In conclusion, the writer has to thank the Surveyor to the Corporation for a most courteous reception at the Municipal Offices and for assistance given in locating the various groups.

NOTES.

Why Close the Museums?

WE are glad to note that protests are being raised against the closing of art galleries and museums on the score of economy. There is no need to labour the arguments showing what an insignificant saving could be obtained by an action so detrimental to the intellectual and spiritual life of the country. But we would like to add a special word on behalf of our soldiers on leave—particularly those from the Dominions and those who have been wounded—to whom the sights of London are not only a joy but an education. The same argument that closes the National Portrait Gallery and the British Museum may well close the Tower of London and the rest of our national and historical show-places. Without stopping to inquire exactly what influence the thought of seeing London has had in bringing men from the outlying frontiers to the support of the Empire, it is safe to say that London without such sights as the Tower and the British Museum will not be London to them. For their sake alone it would be worth while to keep our museums open. Indeed, from whatever point of view we look at this proposal, it seems to combine the minimum of economy with the maximum loss to everything that is best in the life of the nation.

Monuments.

WE are glad to note that Professor Adshead is to give at University College a series of lectures on the design of monuments, for most of the money spent on them in this country has been thrown away more through want of knowledge of the principles which should govern their design. A monument should always be designed in accordance with architectural principles, however important a part sculpture may have in it, and the recognition of this in France has made the French monument a thing of beauty. In a recent issue of the *Studio* a number of photographs of a series of Paris monuments are given which illustrate our point. In a simple composition like "La Porteuse de Pain," in the Rue St. Jacques, the fine woman's figure owes no small part of its effect to the design of the pedestal on which it stands. In the monument to Alexandre Dumas Père the sculpture is an accessory rather than the principal element, though the architecture is designed in conjunction with sculpture, and would be unmeaning without it. The monuments to Guy de Maupassant by M. Verlet, Watteau by M. Gauquié, and Perrault by Gabriel Puech are examples we could wish were more often followed here. Instead of a complete figure, often so uninteresting, the employment of a bust on a pedestal, surrounded with a subsidiary figure or figures, is full of suggestion of artistic possibilities, and is capable of far greater harmony of treatment in relation to surroundings than a statue can be. But they are all compositions which necessitate a sculptor's possession of architectural knowledge and the co-operation of architect and sculptor.

Coventry and War Industry.

WE hear that an American visitor to Coventry says it has become more like a new city of the Middle West than an English town, and that its factories are growing as fast as those of Detroit—high praise from an American. We learn that the entire steel frame of a great five-storied factory was recently put together in a space of less than a fortnight. The problem of labour has been largely solved by the employment of women workers, the dislike to which has been met by paying them the same rates as the men, which the men regard as a safeguard against their employment in slacker times. The housing question is not as acute as in many other places owing to the exceptional measures which have been taken to cope with it. We trust that after the war has come to an end the demand for what Coventry can produce will be kept up in the markets of peace, and that the new vitality imported into its life will not die down, but be turned into productive channels. The utilisation of the new facilities for war production in times of peace will become a very important question when peace is in sight. One of the gains among losses may well be the stimulation of means of production, and there should be new markets both at home and abroad for British manufactures, unless indeed labour destroys its best opportunity through sectional antagonism and inability to understand broad issues.

Housing Again.

WE have received a communication from Andover to the effect that about fifty houses are badly needed there and would "let like wildfire at good rents." We are asked if we know of any builder who would like a gilt-edged speculation with no risk and certain profits! Alas, in vain is the net spread by the fowler, though builders who are blamed for their bad work and the absence of design and planning shown in their speculative work are always appealed to to help the public out of their difficulties! If the Andover speculation is a good one, surely some of its enterprising citizens can take it up, forming a little syndicate and doing without the speculative builder; it is their chance. The public were fairly indifferent to recent land legislation, looking on it as directed against the great ground landlords; now that they find it prevents the small speculator from providing them without cost and risk a choice of dwelling-places which they can complain of *and use*, they are inclined to alter their views. Government cannot in the near future provide more than a small fraction of the housing facilities required, and private individuals and small syndicates must take the place of the speculator, or, on the other hand, conditions must revert to what they were before the days of "Limehouse oratory." The public meanwhile may have to pay a stiff price for their credulity in believing that injustice to any class is compatible with the welfare of the rest. Meanwhile we hope Andover will get what it wants, and trust no unworthy aristocrat's feudal tyranny blocks the way!

A Dundee Improvement.

A NEW wharf has been completed at Dundee at a cost of £100,000, and will be ready for use early this year. The wharf is situated to the east of the entrance to Camperdown Dock. The work has been necessitated by the great increase of import trade, chiefly owing to the changed condition of the jute trade, the vessels engaged in which are much bigger than those formerly used; also, whereas the importation of jute was spread over the whole year, it now has to be disposed of in six months. The great works now being undertaken by the Port of London Authority and the improvement of shipping accommodation at Southampton, Swansea, Bristol, and other of our ports will probably be even more necessary than if war had not occurred, since one of its effects is likely to be an increase in our carrying trade, especially since shippers will be in a position to put down more and bigger ships than before after the shipping boom and high freights which now prevail.

The Leicester Galleries.

THE exhibition of paintings and etchings by members of the Artists' Rifles at the Leicester Galleries contains some work of very high artistic excellence. We will only mention a few exhibits which are of altogether exceptional merit, but those who visit the Galleries will find much that is worthy of close study. Second-Lieut. W. Lee Hankey sends No. 2, "The Knitting Lesson," a study of figures which shows unusual sense of form, composition, and expression. No. 21, "Loches Castle," by Lance-Corporal Malcolm Osborne, is a delicate and masterly etching showing great skill in the depiction of atmospheric effects. Cadet Ernest Cole's Studies for Sculpture, Nos. 36 and 37, have a Michelangelesque quality of vigour and vitality. Another fine example of figure delineation and, in addition, colour values is supplied by Lance-Corporal Lance Thackeray in No. 68, "A Drinking Place, Dierout, Egypt." No. 76, "Entrance to a Temple, Yokohama," by Corporal Montague Smyth, is very pleasing in its delicate and somewhat faint effect of colour harmonies. No. 108, "The Wooded Highway," by Lance-Corporal F. Dobson, is among the best oil-paintings exhibited, and is most successful in composition and chiaroscuro. The exhibition of water-colours, illustrating the Christmas Carol, etc., by Mr. Arthur Rackham, R.W.S., which is held at the same Galleries, is very interesting. No. 13, "Marley's Wanderings," and No. 15, "Scrooge and the Ghost of Marley," are among the best examples of the artist's style, and perhaps recall the imaginations of childhood more vividly than do any of the others, though we confess to a preference for the artist's line work unassisted by colour tints, for his recent work is tinted line work in which the colour is superfluous.

NATIONALITY AND ARCHITECTURE.

EMERSON says of art that "it is Nature passed through the alembic of man." It is varied according to the nationality and temperament of the artist; he assimilates most readily those phases of nature which are most in accordance with his own idiosyncrasy, so that art is as varied as the different temperaments of the artists, and this assimilation or selection is not wholly due to intellectual effort, but is, in part, involuntary. The variation in art due to the differing personalities of the artists is naturally more readily to be seen in the imitative arts of painting and sculpture than they are in the ideal and more impersonal art of architecture; but even in architecture they are, as a rule, plainly visible. If we examine the architecture of any period of the past we shall find that the social, political, and physical agencies seem always exactly in accord with the æsthetic feeling and power of the artists of the time, and even with the materials in which they worked. It is the extraordinary harmony that exists between the history of men and the history of stones that causes architectural remains to be of such supreme importance to us in our study of ancient civilisations, as they express the qualities of mind that produced them. To properly appreciate any architecture we must have knowledge of the spirit that produced it. Greek architecture is the visible expression of the wonderful Greek spirit of "intellectual lucidity which was the inspiration of Greek life." And how well Roman architecture expresses the greatness of the Romans, particularly as organisers and administrators! Of this classic spirit, which had such splendid results, Kenyon Cox says:—"The classic spirit is the disinterested search for perfection; it is the love of clearness and reasonableness and self-control; it is, above all, the love of permanence and continuity." It has been said that the short age of Pericles and the fifteenth and sixteenth centuries in Italy were the most fruitful for art in the history of the world. If we wish to understand the richness of Italian art we must know something of the fullness of Italian life that produced it. As architects we realise that it is not by slavish copying of great buildings that we can produce fine architecture, and that even knowledge of the life of which it is the expression is insufficient for our purpose; we must also realise to the best of our ability the underlying movements, the ideals and aspirations that animate the men and women around us. We have to endeavour to meet a demand that never confronted the builders of the past. Matthew Arnold has said that, "Though in many respects the ancients are far above us, there is something which we demand that they can never give." Our essential characteristics as a nation are said by Matthew Arnold, in his "Essays in Criticism," to be energy and honesty, and he proves that they are most important and fruitful qualities not only in the moral sphere but also in the intellectual and spiritual sphere; "and what that energy, which is the life of genius, above everything else demands and insists upon is freedom; entire independence of all authority, prescription, and routine—the fullest room to expand as it will. Therefore a nation whose chief spiritual characteristic is energy will not be very apt to set up in intellectual matters a fixed standard, an authority, like an academy." This want of a standard authority has been a great loss to us, not only in literature, but particularly as regards our monumental architecture, and it is to a great extent because the French have such an authority that their public buildings are, as a rule, so superior to our own. It is no wonder that, possessing the above characteristics, our domestic architecture is so much superior to our public buildings. An amount of individuality that, if expressed in the design of a public building, would be detrimental to its success, is not only permissible but even desirable in the case of domestic work, and the modern domestic architecture of our country is admitted to be excelled by none. As regards our architecture generally, the futility of disorganised individual effort has at last been realised, and in recent years the technique of the art, in its widest sense, has received a study such as had not been given to it since the days of Cockerell. In public buildings especially the personality of the designer should never be aggressive nor the dominant note; that should be given by the personality of the building. The subordination of the individual for the general good of the community is one of the most characteristic tendencies of the present time; we see this in the recognition of the value of organisation in building development, and in the importance now attached to the study of town planning, which implies the suppression of rampant individualism for certain general amenities, and a readiness to consider each other's work. The Englishman will spend money with pleasure on his own house, and with satisfaction on his business premises, but grudgingly on a public building, and will use every argument to reduce its size or its splendour; and this attitude, he says, is due to his dislike for show, but in many cases it would be more correctly ascribed to his stolid insensibility to art. The Frenchman, on the other hand, is a cheerful giver because, as a rule, he takes great interest and pride in his public monuments. There are, however, many signs of a hopeful change in our national taste, and the people generally are taking a growing interest in our architecture, and are also beginning to realise the fact that beauty in towns is in the long run both profitable and economical.

Easy communication suppresses more and more not only local but national characteristics. What, then, of the architecture of the future? Those most competent to form an opinion seem to agree that it will become more uniform over the whole of the civilised world. In this connection we may quote Jean Louis Pascal:—

"The time has passed when contemporary civilisations ignore even their nearest neighbours. There are no materials, no inventions, no new processes of one country that are not immediately known over all the world and employed everywhere. . . . More and more will architecture become universal—there will be little beside the conditions of climate and material which will make diversity."

THE NATIONAL POLICY AND BUILDING.

ABOVE the clash and fury of war we hear the clamour of the economists, the educationists, and the politicians, each with their own special scheme for securing to this country the full benefits of victory when it comes. The first want tariffs; the second technical education; and the last want many things—from taxes on enemy subjects to a general system of bounties and subsidies, either to special manufactures or to the ships which carry them.

All these require earnest attention in good time, but none of them alone will succeed in the main object, which should be to secure the economic independence of the Empire. We must never again allow ourselves to be caught in the condition in which we were, with our metal market in foreign hands, and the primary essentials of many of our industries only obtainable through alien channels. By permitting these things we have, as Sir Edward Carson says, been quietly forging the means of our own undoing.

The discussion of the political aspect of these questions does not come within our province. We are concerned with the industrial welfare of the country, and especially with that of the building trade. Great catastrophes like the present war must inevitably produce far-reaching results, and the whole economic circle of wages, rent, and the cost of building must receive a rude shock—its extent must depend upon the movement of wages in other trades, and this, in turn, upon the arrangements made as to tariffs. A general increase in cost of living is bound to be followed by general rise in wages, and that involves higher cost of houses and higher rents. Although, therefore, the building trade would be but slightly affected directly by a tariff—only such materials as glass, asphalt, steel and ironmongery being affected—the question seriously affects the trade indirectly. It is our largest industry, and is one of the few trades in which there is no competition from abroad. It is one in which we have excelled greatly, owing to our command of such varied and sterling materials and our innate genius for sound construction and beauty in form attained without effort.

We are asked to co-operate in a movement which aims at economic national independence, the raising of trade questions out of the field of politics, and the organised co-ordination of trade science and banking. Let us see what is the bearing of these proposals upon the future of the building industry, and what steps, if any, should be taken to protect it.

The Institute of Industry, which entertained recently such a distinguished body of leading manufacturers, has launched a campaign which has these objects for its purpose. Sir Edward Carson urged concentration of the efforts of traders and warned them against too many minor organisations; and here, it seems, is a chance to bring all the trade organisations together with one common object.

We entirely approve the main ideas and hope to see the Institute prosper, but we confess that we have our doubts as to whether traders will be persuaded to join until its programme is more definite. Many of the things suggested could be done by the present trade societies, and nothing but the formation of a clear programme of action will, in our opinion, capture the main body of traders.

The French Chambers of Commerce demand certain specific measures, such as an Allied Customs Union with bounties for exports, subsidies for merchant ships and mutual concessions, also measures to prevent money of the Allies being attracted to enemy countries by high interest, suppression of quotation of enemy shares, heavy taxes on enemy subjects, and higher rates on enemy trading houses, etc.

Some such schemes might well be adopted by the Institute of Industry as conducive to better trade at home, and beyond these traders would have opportunities of putting any other ideas before the Board for discussion.

For builders in particular here are some reforms which have long been evidently needed which this Institute might encourage. For instance, the better education of the workmen is a vital necessity, and there should be fixed grades of efficiency and wages should be regulated accordingly. The Institute might do good service in organising some plan of this kind. The trade unions might suitably assist. It would be a good augury for the future if they would show that they consider the efficient performance of the duties of the men to be not less important than the assertion of their rights. For employers we want better organisation of capital and the means of production, better facilities for training supervisors and better banking facilities. All these can be secured better through a general body of employers than through an isolated trade society.

Banking credits would be, however, a double-edged concession. In Berlin, for instance, we see that as a result of the easy terms of finance, large tracts of ripe land have been bought and sold again until ground rents have become much inflated and speculative builders demoralised.

As it is, our banking system is a protection against wild-cat schemes and over-speculation. Where the security is a permanent one there are always the insurance companies, but they usually demand redemption policies which provide for extinction of the loan in less than forty years. At the same time it must be remembered that they remove the serious risk which an ordinary mortgagee has to run of having his mortgage called in. The shortening of the period of loan is a step in the right direction.

Foreign contracts naturally require more support from the State than home contracts. The consular service must be improved, and our interests closely watched and information promptly given.

Perhaps the greatest service the Institute could do for building would be to stimulate in the public mind an interest in British real estate by collecting data to show the returns of existing property companies, and indicating profitable investments of this kind and encouraging reconstructions wherever necessary to avoid waste. This would stop the flow of capital abroad which did so much to retard developments here during the last twenty years.

GENERAL NEWS.

The Wallace Collection.

It is stated that the Wallace Collection, Hertford House, will be closed on February 1 till further notice.

Dover Rural Surveyorship.

At the meeting of the Dover Rural District Council recently, Mr. T. W. Woodruff was appointed Surveyor in place of the late Mr. Sargent. There were 160 applications for the appointment. Mr. Woodruff has acted as clerk of the works on the building of the East Kent Colliery village.

Strand Property Sale.

At the meeting of the London County Council on Tuesday it was agreed to purchase No. 25, Strand—needed for the improvement scheme—from Mr. Appenrodt for £15,550 leasehold. This money, with 5 per cent. interest, will not however be paid until one year after the termination of the war.

Electric Trains to Kingston.

Electric trains are to start running on two more sections of the London and South-Western Railway on Sunday next. The electric trains are now running on the short section from Waterloo to Wimbledon, *viâ* East Putney, and the new sections are the Kingston line from Waterloo and back, and the Thames valley line to Shepperton.

British Bridges for India.

It is stated that the contracts for 127 lattice-type girder bridges, for the extension of the Mymensingh-Bhairab Bazar section of the Assam-Bengal railway system, and for fourteen bridges, ranging from 20 to 60 metres (65 ft. to 196 ft.) span for the Federated Malay States Railways have recently been awarded to the Cleveland Building and Engineering Company, Ltd., of Darlington.

British Industries Fair.

We understand that the Board of Trade have let all the space available for exhibitors at the forthcoming British Industries Fair at South Kensington, subject to the restrictions of the Ministry of Munitions, where it is considered that the country's vital interests in the production of munitions, transport, etc., would be prejudicially affected by permitting certain firms to take part.

London Building Trade.

In the House of Commons on Thursday last week Mr. W. T. Wilson (Labour, Westhoughton) asked the Prime Minister whether he had been asked by the London Master Builders' Association to meet a deputation from that Association to discuss the question of suspending or cancelling contracts entered into prior to August 4, 1914; and whether, before coming to any decision on the matter, he would meet a deputation of the representatives of the workmen engaged in the building trade.—Mr. Asquith: "No, sir. I have received no such request."

Church Building Society.

The Incorporated Church Building Society held its usual monthly meeting on the 20th inst. at the Society's House, 7, Dean's-yard, Westminster Abbey, S.W., Lieut.-Colonel the Hon. G. H. W. Windsor-Clive in the chair. Grants of money were made towards building new churches at Cwmbran, St. Gabriel, Llantarnam, Mon, £175; and Preston, St. Cuthbert, Lancs, £125. A grant of £20 was also made towards reseating and repairing the Church of St. James, Newton, Cambs. Grants were also paid for works completed at Shoreditch, St. Michael, Middlesex, £25; Salisbury, St. Mark, £75; and Lambeth, Holy Trinity, Surrey, £50. In addition to this the sum of £332 was paid towards the repairs of eighteen churches from Trust Funds held by the Society. The Society likewise accepted the sums of £500 and £200 respectively as repair funds for the churches at Stanley, St. Paul, Liverpool, and Charnock Richard, Christ Church, Lancs.

Mr. McKim's Royal Gold Medal.

The House Committee of the American Institute of Architects has arranged for a cast to be made of the Royal Gold Medal presented on the recommendation of the R.I.B.A. to Mr. Chas. F. McKim in 1903, the original of which, at the request of Mr. McKim's daughter, is kept in possession of the American Institute. The cast will be gilded and appropriately placed in the Octagon (the premises of the Institute), and the orginal will be retained in a safe-deposit box.—*Journal* of the R.I.B.A.

Building at Hendon.

The war has had a great effect upon development in Hendon, although builders during 1915 were by no means idle. In the course of the twelve months the Council had under consideration 133 applications for approval of plans. Road-making was practically at a standstill; there was also a great falling-off in the number of dwelling-houses erected, as well as in buildings of the warehouse class. The total number of houses completed during the year 1915 for occupation was 486, the number in 1914 being 615 and 661 in 1913. At the end of the year exactly 200 were in course of erection as compared with 478 on December 31, 1914, while the number at the close of 1913 was 526.

R.I.B.A. War Record.

A Record is being kept at the Institute of Architects of the names of all members of the architectural profession who have joined the military or naval forces of the Crown for the period of the war. The list includes practising architects, their assistants and pupils, and architectural teachers and students, whether attached or not to the R.I.B.A. or other architectural body. So far some 2,100 names have been entered on the Record, but lately, in spite of the recent boom in recruiting, very few names have been received other than those of members of the Institute. The co-operation of members and non-members is specially invited in order to make the Record known and to bring about its completeness.

Garden City Movement.

The annual Report of the First Garden City, Ltd., gives evidence of considerable progress in the past twelve months. In February a combination of two Belgian engineering industries was attracted to the town, and by June were at work in three large buildings, and are now employing 1,200 men. The present population of the city is approaching 12,000, and, although 3,000 are Belgians, there is every likelihood that there will be a demand for houses for some time to come. Some hundreds of new cottages have been erected by various housing societies and by the Hitchin District Council. The accounts show that the net profit for the year was £5,823, an increase of £2,621 over the preceding year.

New Bridge across the Neva.

The fine new Palace Bridge (Dvortsovy Most) across the Neva, so styled, says the *Times*, on account of its situation almost immediately opposite the Winter Palace, is rapidly approaching completion. The bridge has been constructed in accordance with the plans of A. P. Pshenitsky, which were tendered at the competition announced by the municipal administration in 1908, R. F. Meltser being responsible for the architectural portion. It is a five-span structure, with a length of 246·94 metres between the shore abutments. There are eight girders in the width of the bridge, the distance between each being 3·60 metres. They are calculated to bear a load on the tramway lines of cars weighing 22 tons. The movable central span consists of two equal leaves. For opening it two methods are available—viz., mechanical, by means of electric motor; and hand, with the aid of a capstan. The piers rest on caissons sunk with the help of compressed air into the ground to a depth varying between 23·75 and 27·86 metres. Their working chambers, after they had been immersed to the required depth, were filled first with rubble and subsequently with concrete.

Lectures on War Memorials.

Professor S. D. Adshead, M.A., F.R.I.B.A., will deliver six public lectures on "War Memorials," illustrated with lantern slides, at the University of London, University College, on Wednesdays, at 5.30 p.m., beginning on January 26. Admission will be free.

General Closing of Museums.

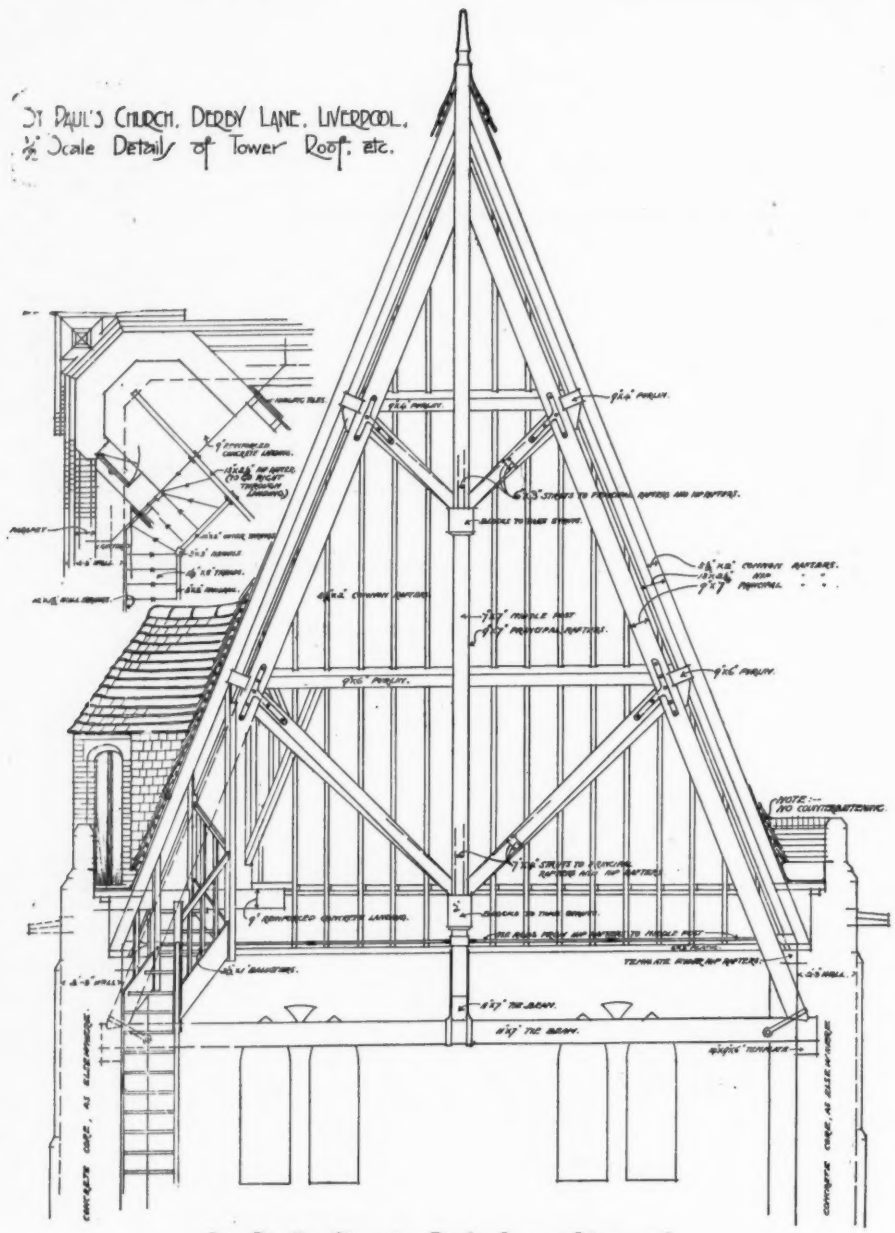
The closing of the British Museum on the ground of national war economy is now officially announced. This step, it is definitely stated, forms part of a general plan for closing museums throughout the country. The statement on the subject, issued by the Director of the British Museum on Saturday, is as follows:—"In accordance with the decision of the Government that all public museums and galleries should be closed, the British Museum (including the Natural History Museum) will shortly be closed to the public. The Reading-room will remain open, but will be closed at dusk. Fuller particulars, including the precise date of closing, will be announced later."

Raphael and Michelangelo.

Mr. C. J. Holmes, M.A., Director of the National Portrait Gallery, gave at the Royal Institution on Saturday last the first of two lectures on "Raphael and Michelangelo." The lecturer said that many people thought that the education of an artist was limited to the years of his youth, whereas in reality the process of education lasted throughout his life. Reynolds in England and Rembrandt in Holland were perfect illustrations of this process of development. The evolution of genius might be likened to the growth of an organism in its response to the influence of every variety of stimuli. The case of Michelangelo strongly supported this contention. The process of change was going on all his life. He was in turn sculptor, painter, poet, and architect. Raphael began as a provincial stimulated by the intellectuality of Florence, then moved by the greatest genius of the Renaissance in Rome. This stimulus incited his talent to an extraordinary pitch of efficiency. He became almost omnipotent in the art world. He was architect of St. Peter's, surveyor of antiquities, and was overwhelmed with commissions under the stress of which he finally succumbed.

Preservation of London Commons.

Mr. Lawrence W. Chubb read a paper before the Royal Society of Arts recently on "The Common Lands of London," describing the work of the Commons and Footpaths Preservation Society, of which he is Secretary, in its fifty years of existence. He pointed out that between 1710 and 1809 about five million acres of common lands were divided, 219,724 acres being enclosed in the counties bordering London. Some of this land had since been repurchased on behalf of the public, as in the case of Hainault Forest. Greater London was still the happy possessor of 15,900 acres of common land. Every common ought to be under regulation to ensure law and order and its preservation as an open space. Our commons and parks had lately been put to extensive military uses, and had been the means of saving vast sums that would have had to be spent on training-grounds. It was not to be thought that after the successes of the Society nothing further remained to be done. But a new spirit prevailed, for the Inclosure Commissioners, who facilitated the appropriation of common land, had ceased to exist, and the Board of Agriculture, who took their place, were bound to regard public rather than private interests. It would be folly to sacrifice the commons on the altar of utilitarianism while millions of acres of enclosed land lay idle in the productive sense. Illegal enclosures were still taking place, and undesirable schemes of afforestation required to be watched. No one would assert that London was too well equipped with facilities for recreation when it was realised that there was but 1 acre of open space in London proper for every 678 inhabitants, while in Southwark there was only 1 acre for every 14,500 persons.



St. Paul's Church, Derby-Lane, Liverpool.

Mr. G. Gilbert Scott, F.R.I.B.A., Architect. (*See page* 88.)

CORRESPONDENCE.

Closing of the Museums.

SIR,—The National Portrait Gallery is now closed to the public, the Wallace Collection will be so at the end of the present month, and it is announced that the British Museum (carrying with it the Natural History Museum) will shortly follow suit.

The wisdom or necessity of such action has been challenged, both in the *Times* of Saturday last and in an interview with a well-known critic published by the *Daily Telegraph* in last Monday's issue; but, while I fully appreciate the untiring efforts of Sir Claude Phillips to impress upon the public attention, and that of the Government, the necessity for more adequate protection of the art treasures contained in our great museums and public buildings, I do not feel that he gives sufficient prominence to the loss in the intellectual life of the nation which the total closing of our museums will entail.

"Economy in education," says the *Times* in its excellent leader of last Saturday, while showing that the educational use of museums is better understood to-day than ever it was, "is the least desirable of all economies, because it may inflict a permanent injury on the next generation."

In a living and growing democracy such as ours art must be considered in no sense as the hobby-horse of a few rich men and collectors, but as part of the vital force of the nation—nay, even of the race—as an influence which is to enrich and fertilise our whole national life.

We are out to win in a great fight—to win for the world which is to come the battle of democracy; and this fact is, I fully believe, beginning to be realised by the great democracies of America. But beyond the present stress of conflict we have to carry forward our very best material in art and thought and science to the years of reconstruction, which are before us when this incubus of European militarism shall have received its death-blow.

In this matter we have a duty not only to ourselves but to our Empire without; but if, as I believe, our true political future lies in the closer economic union of that Empire, so, too, our museums, with all their attendant activities, supply an outflow from the Empire's heart to every small township in Canada, Australia, and South Africa.

If, as Sir Claude Phillips says, their closing is necessary to give adequate protection to the contents, then we would all accept our loss as part of the great war sacrifice.

But is it so necessary?

Will the economy effected by the partial reduction of an already diminished staff—partial because police and fire-protection and general safeguarding must be continued—balance the loss to our intellectual energies, the opportunities for reference or study withdrawn from readers, architects, artists, and art students (the very class who suffer most from the present conditions), the probable interference with valuable lecture work, the loss to assistants trained to this specialised work—in a word, will the dislocation of a whole vast organisation of beneficent energies be worth the money saved? SELWYN BRINTON.

Burlington Fine Arts Club, W.

Apprentices.

SIR,—Mr. John P. White, of Bedford, in his letter in the *Builder* of December 3, points out the dearth of apprentices in wood-working craft, and "J. G. W.," in the *Builder* of December 24, says the question must be taken in hand nationally through our educational system. Anyone who has studied this most important, urgent, and indeed overdue question will agree, I think, broadly with each of those correspondents, but the difficulty is a practical remedy.

My object is to point out what has been done by the Institute of Builders, the body officially representing the building trade of the kingdom. Some four or five years ago the Institute discussed and formulated a scheme of apprenticeship which meets the point put by the above correspondents, and has since been doing its utmost to get the scheme adopted for London by the education authorities, but without success. The scheme includes provisions which may be shortly stated.

Early in 1912 the Institute submitted to the London Education Authority a constructive scheme of apprenticeship that would enable suitable boys to learn a trade under proper conditions directly they leave the Elementary School, on the lines following:—

(*a*) That the school age should be raised for such apprentices by two or even three years, so as to strengthen supervision and maintain, for part at least of the apprenticeship period, some connection between school and workshop.

Note.—This provision supplies the "more intimate link" desired by "J. G. W."

(*b*) The indentures recommended by the Institute of Builders were for a period of five years in workshops and on jobs, so that a boy could learn his trade under actual working conditions.

(*c*) That time on two afternoons in each week at full pay should be given to the study of the theoretical side of the chosen trade during the first two or three years of the apprenticeship term, so that theory and practice should advance together.

(*d*) Where a premium is required with an apprentice the Institute scheme would apply to the payment of such premiums a part of the money at present spent by the Education Authority in scholarships and similar rewards, sums now used mainly in subsidising non-industrial branches of higher education or in maintenance grants.

Note.—By this provision there would be no increase in the education rate.

(*e*) The connection between school and workshop, referred to in Clause A, could be maintained by a small voluntary advisory committee of managers and employers for each district or school division.

(*f*) The Institute scheme also included a schedule of premiums and rates of wages; these rates of pay are a very considerable advance on the wages until now being paid generally in the building or any other trade.

The weekly wages in this schedule starts at 8s. 4d. per week of fifty hours, and in the fifth year rises to 27s. 1d. per week (or 6½d. per hour), and while they do not, and cannot, compare with boy wages at present obtaining owing to war conditions, the parental sacrifice of present advantage for the ultimate good of the boy is surely not a heavy one.

(*g*) Where no premium is paid the Institute's schedule of wages is rather less, so as to provide for payment of premium out of wages.

(*h*) A further part of the scheme is the provision of a bonus of £25 to the apprentice on completion of indentures for the purchase of tools, etc.

These are the main points of the scheme which was first put before all the borough councils of London and approved by twelve or thirteen of them, only one council having returned a definite negative and the rest making "no order."

The scheme has been carefully considered by educational experts, and is considered to contain the nucleus of a workable permissive

scheme which would gather in the boys between fourteen and fifteen years of age and take them direct from the school to a trade, and thus prevent the wastage of good material drifting into "dead end" jobs, having no ultimate benefit when the boy becomes a man with a man's opportunities and responsibilities.

The scheme has been before the Higher Education Committee of the L.C.C., and has been explained in conference with the Committee, but, while sympathetic, the Committee held that they had no statutory power to adopt it.

The Institute has therefore this year decided to request the co-operation of the National Federation of Building Trades Employers of Great Britain and Ireland in arousing interest in, and support of, the scheme by the building trade throughout the country, with a view to Parliamentary action and the provision of the necessary permissive powers in the next Education Bill that must come before Parliament and the country when the war is happily ended.

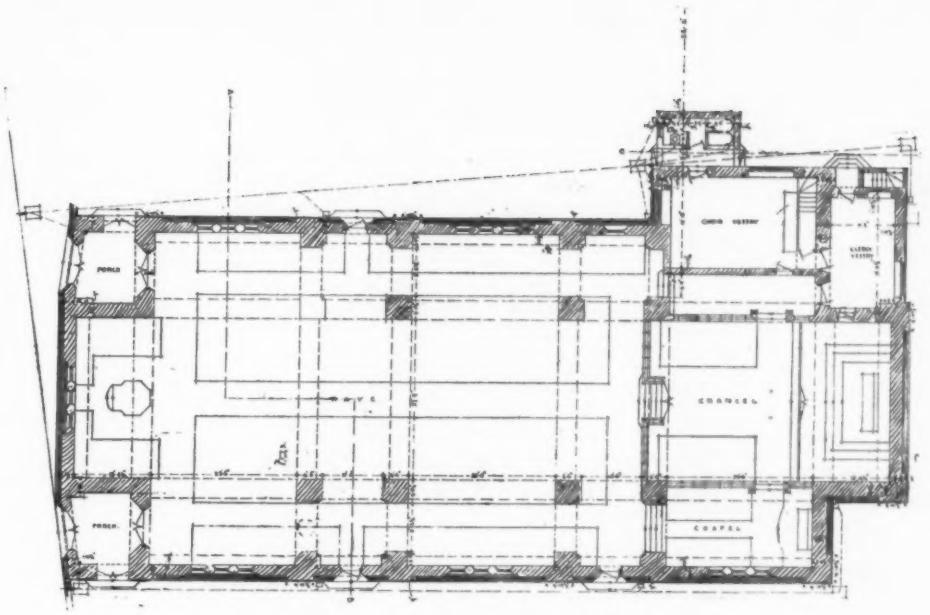
I apologise for the length of this letter, but the great importance of the matter is my excuse.

THOMAS COSTIGAN
(Secretary).

ARCHITECTURAL SOCIETIES.

Architectural Association of Ireland.

"Belgium: Her Glory and her Woe," was the subject of a lecture, profusely illustrated with lantern slides, given on the 20th inst. by Mr. Harry Allberry, A.R.I.B.A., before the members of this Association in their rooms, 15, South Frederick-lane, Dublin. Mr. H. G. Leask presided. In the course of his paper the lecturer dealt with the notable architectural examples, mediæval and modern, of the cities and larger towns which are at present in the hands of the Germans. Describing the devastating march of the invaders from Liége, through Brussels, to Antwerp, and the noble buildings and the havoc wrought to them in Louvain, Ghent, Bruges, Malines, Courtrai, and Dinant, until the advance of the enemy was stopped by the artillery of the Belgian, French, and British armies in and around Ypres, the lecturer recounted the history of most of the famous ecclesiastical and civil buildings in the country, and the destruction they had suffered from the guns of the Germans. On the motion of Mr. Richard O'Brien Smith, seconded by Mr. George G. Lynes, a vote of thanks was passed to the lecturer.



St. Paul's Church, Derby-Lane, Liverpool.

Mr. G. Gilbert Scott, F.R.I.B.A., Architect. (See page 88.)

LAW REPORT.

Important Decision as to Drainage.

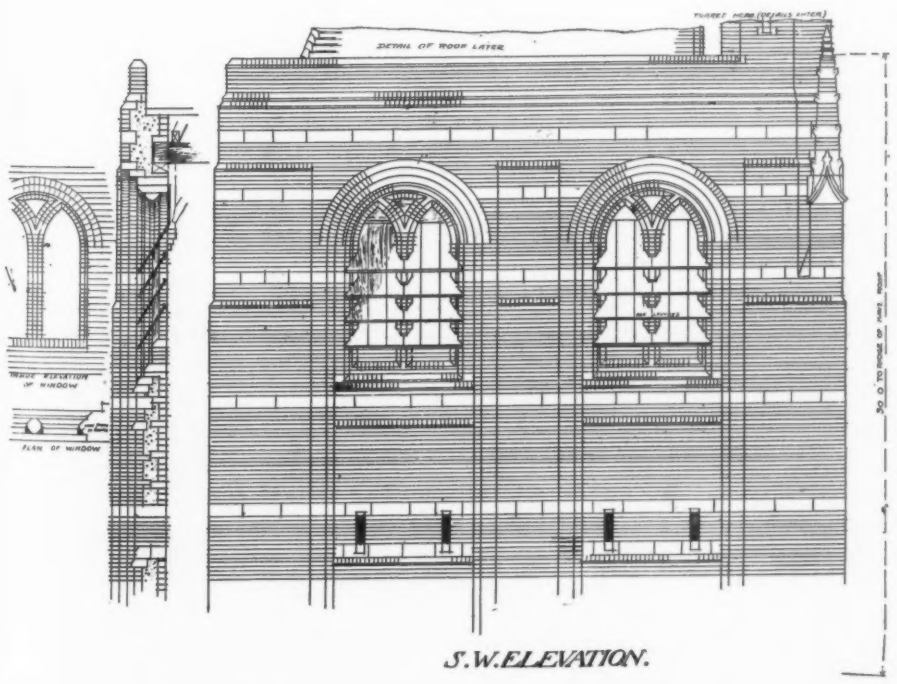
RECENTLY, in the Marylebone County Court, before his Honour Sir W. Lucius Selfe, the Willesden Urban District Council sued Mr. William Taylor, builder, of Westbourne Park-villas, Paddington, for £39 6s. 3d., being the cost of repairing drains at one of his properties, 82, Princess-road, Willesden.

The facts were, that, acting on the information of a common informer, the Council sent one of their inspectors to view the drainage complained of, and on his report gave the defendant notice to do certain repairs. On a subsequent date the inspector called again, and reported to his Council that work had been done, but not of the nature demanded by the Council. Further notices were served on the tenant and the owner, and a date fixed for inspection—January 19 last. On the inspector and his workmen appearing at the premises they were refused admission. Thereupon the Council entered under an order from the magistrate, and did the necessary work, the cost of which was now sued for, with interest from the date of claim. It was stated that in May last the defendant entered an action for an injunction to prevent the Council carrying out the repairs, but that action was not proceeded with.

Mr. Herbert Davey, for the plaintiff Council, called the inspector to prove the state of the drains and the delivery of the statutory notices.

Mr. Adlington Willis, for the defendant, proposed to show that there was no such defect in the drains, as alleged, to make them injurious to health or a nuisance.

His Honour declined to hear this testimony, saying that that evidence should have been produced before a Local Government Board inquiry. Defendant's remedy was to have appealed to the Local Government Board within twenty-one days of the notice to repair, and his evidence would have been of avail at the consequent inquiry. In the circumstances he would order the defendant to pay £38 7s. 11d. into Court within a month, with the costs of this day, and that would give him an opportunity of appealing to the Local Government Board, if he was so advised.



St. Paul's Church, Derby-Lane, Liverpool.

Mr. G. Gilbert Scott, F.R.I.B.A., Architect. (See page 88.)

FIFTY YEARS AGO.

Competitions.

Newcastle Cemetery.—The first premium for buildings has been awarded to Messrs. Bellamy & Hardy, Lincoln. The second for buildings, Mr. Stallwood, Scarborough. The first premium for laying out grounds, Messrs. Bellamy & Hardy; the second for carrying out grounds, Mr. Miller, Newcastle. The works are to be commenced at once under the direction of the successful competitors.

Neepsend Church, Sheffield.—Designs have been submitted to the Committee of the Church Extension Society in Sheffield for a new church to be erected at Neepsend, by the following architects:—Messrs. Flockton & Abbot, Messrs. Blackmore & Mitchell Withers, and Mr. Fletcher, all of Sheffield; and Mr. Thomas Charles Sorby, of London. The Committee have selected that by the last-named gentleman, and immediate steps will be taken towards the erection of the building.

The Reading New Workhouse.—Plans for the workhouse, to be erected in the Oxford-road, were recently sent to the Board of Guardians by six architects of this town, and the Poor Law Inspector on his last visit selected two, one executed by Mr. Woodman, and the other by Messrs. Brown, expressing, however, his preference, on several grounds, for Messrs. Brown's plan. The Board have finally selected Mr. Woodman's plan.

[*** We give the above extract from the *Builder* of January 27, 1866.—ED.]

Leading Contents.

	PAGE
THE MONUMENTS OF OUR PROVINCIAL TOWNS: I.—LIVERPOOL—(*continued*) ..	81
NATIONALITY AND ARCHITECTURE.....	84
THE NATIONAL POLICY AND BUILDING....	84
GENERAL NEWS	85
CORRESPONDENCE	86
ARCHITECTURAL SOCIETIES	87
LAW REPORT	87
ARCHITECTURAL SCHOOLS SECTION :—	
ARCHITECTURAL DECEPTIONS	89
THE LONDON CHURCHES OF WREN AND LATER ARCHITECTS OF THE RENAISSANCE	90
BOOK REVIEWS	91
THE BUILDING TRADE :—	
AN ECONOMIC SURVEY OF 1915.....	92
THE LONDON COUNTY COUNCIL	93

ILLUSTRATIONS.

St. Mary-le-Bow and St. Swithin.

WE reproduce these two plates from "The Churches of Sir Christopher Wren," by J. Clayton, which was published by Messrs. Longmans, Green, Brown & Longman in 1848, and which we give, by the courtesy of Messrs. Longmans, Green, & Co. The arcade shown at the side of the steeple of St. Mary-le-Bow was unfortunately never executed. In the elevation of St. Swithin given the "stone tracery" is omitted, and it is to be regretted it was ever added, as it is out of keeping with the style adopted by Wren. Further notes on these churches will be found on page 90.

St. Paul's Church, Derby-Lane, Liverpool.

THE style is Gothic, freely treated, and adapted to meet the special requirements of the materials employed. Externally the church is faced with small silvery-grey bricks, specially made for the work. The roof is covered with hand-made tiles.

The inside of the building, including the vaulted ceiling, is plastered, with the exception of the quoins, arches, and dressings round windows and doors, etc., which are composed of the bricks previously mentioned.

As regards the general design of the church, an attempt has been made to obtain an effect by largeness of scale and dignity of proportions rather than by elaboration of treatment. The main idea consists of three transepts on each side of the church, with a large square tower at the intersection of the central transept with the main roof. Internally the intersection of the transept vaulting with the main vault produces an original and striking effect, and results in the main arcade being composed of alternate high and low arches. In the transepts at each side of the church and in the end gable facing Derby-lane are groups of three tall lancet windows.

The principal dimensions of the church are as follows :—

Internal length, 142 ft. 3 in.

Width of nave and of chancel, 27 ft. 9 in.

Total internal width of church, including aisles, 57 ft. 4 in.

Height of nave and chancel roof, 40 ft.

The tower rises to a height of about 80 ft., and is surmounted by a pointed roof, making the total height to the apex about 108 ft.

Accommodation is provided for a congregation of about 640.

The contractors were Messrs. Morrison & Sons, of Wavertree, Liverpool.

G. GILBERT SCOTT.

Design for the Third Church of Christ Scientist.

THE design illustrated was submitted in competition some years ago for a church on the north side of Curzon-street, opposite the upper end of Clarges-street. An alternative treatment of the church, with a range of columns, is shown on the left-hand side of the interior view given, and was prepared at the request of the Church Committee.

MEETINGS.

FRIDAY, JANUARY 28.

Glasgow Technical College.—Mr. C. Ernest Munro, A.R.I.B.A., on "The Construction of a Factory in London." 7.45 p.m.

MONDAY, JANUARY 31.

University Extension Lecture (at the Victoria and Albert Museum).—Mr. Banister Fletcher. 4.30 p.m.

WEDNESDAY, FEBRUARY 2.

Royal Archæological Institute (at Burlington House, Piccadilly). — Ordinary meeting. 4.30 p.m.

Carpenters' Company.—Mr. Lawrence Weaver, F.S.A., on "Memorials and Monuments." 7.45 p.m.

Institution of Civil Engineers of Ireland.—Ordinary meeting. 8 p.m.

THURSDAY, FEBRUARY 3.

Royal Institute of British Architects.—Business meeting. Election of members. 3 p.m.

University Extension Lecture (at the British Museum).—Mr. Banister Fletcher. 4.30 p.m.

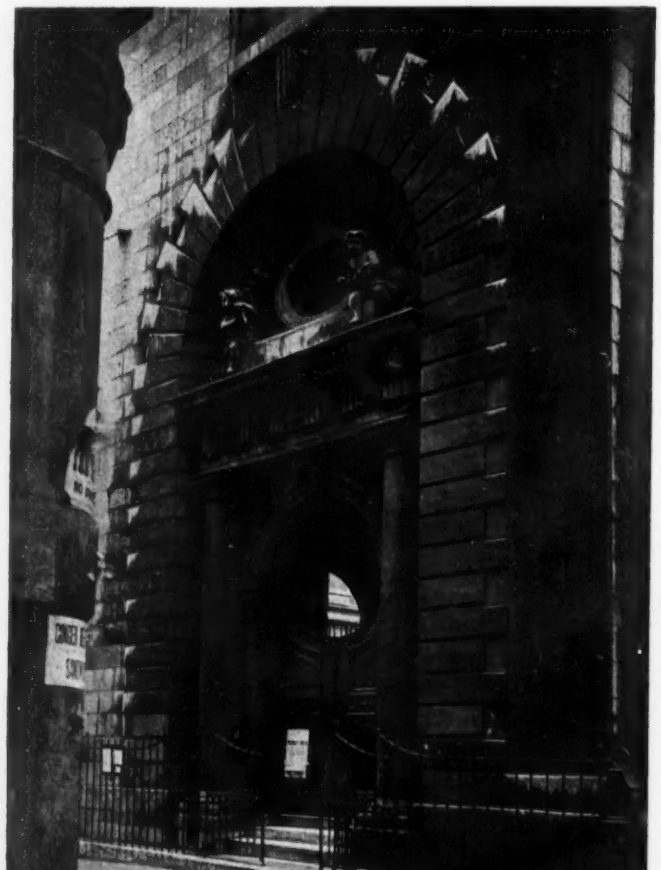
OBITUARY.

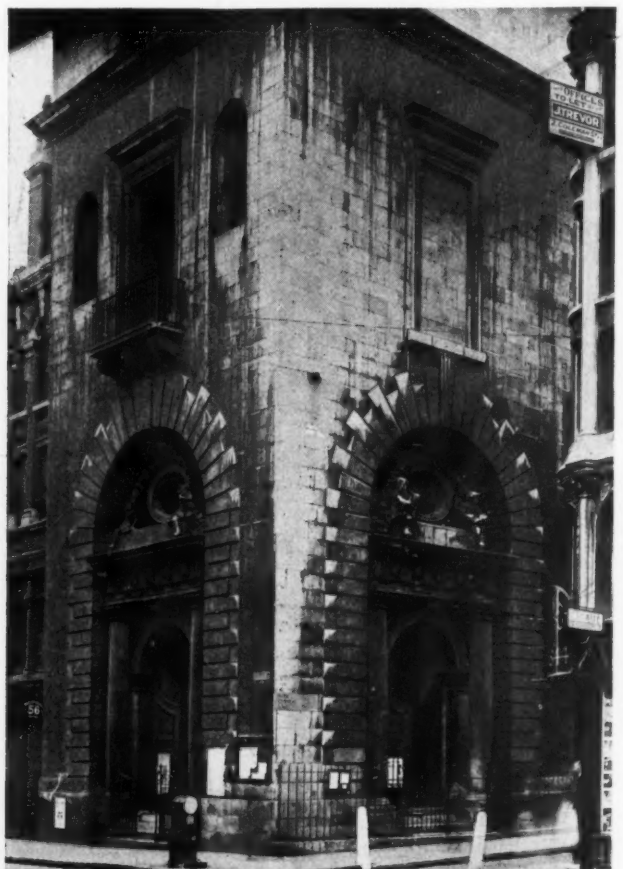
Mr. W. G. Jones.

The death is announced of Mr. William George Jones, who for many years practised as an architect in Woking, of which town he was a native. The deceased, who was forty-seven years of age, for some years previous to starting on his own account was associated with Messrs. J. Harris & Son.

BOOK RECEIVED.

PAINT AND COLOUR MIXING. By A. S. Jennings. Fifth edition. (London : E. & F. N. Spon, Ltd. 6s.)





Wren's Churches : Doorways, St. Mary-le-Bow Church. (*See page* 90.)

ARCHITECTURAL SCHOOLS SECTION.

ARCHITECTURAL DECEPTIONS.

ALL civilised peoples, especially in the West, have held truth to be one of the greatest of virtues. The efforts of scientists are defined as the search after truth, and it is natural that what has been considered to be axiomatic as applied to life and thought should find an echo in the phraseology of art. The emphasis laid on truth has been the basis of Ruskinian criticism on art, and, though we more frequently hear now that architecture should be the logical expression of structure, the implication still remains that architecture should be condemned or praised chiefly on the basis of its truthfulness. Truthfulness usually implies modesty, sincerity, and reserve, a feeling expressed by Shakespeare when he says:—

> You that choose not by the view
> Chance as fair and choose as true.

And so it happens that the magnificence of Roman architecture and even the refinements of Greek art have not appealed to those whose minds have been obsessed with a sense of the value of truthfulness in design, while the ruder exteriors of the great mediæval structures have been considered to enclose the jewelled casket of sincerity and perfect beauty. Enthusiasts have tended to overlook the fact that in more southern climes the relative importance of externals was always naturally greater than in less genial climates, and that it was as natural for Greek or Roman to display what was greatest in his art externally as for the mediæval builder to reserve it for interior effect and to seek protection for it from the inclemencies of climate. Analytically we may question whether the builders of the great French cathedrals—perhaps the most logical expression of purely structural requirements the world has seen—were not more governed by the enormous structural and financial difficulties of raising the great cathedrals than anything else, and whether, given ampler means, they would have hesitated to hide the masses of stone scaffolding formed by flying buttresses behind screen walls. As it is, the western fronts of most of the French cathedrals considered by themselves hide and do not express the structure behind them. The west front of Salisbury is expanded at the sides into a square screen, hiding the construction of the aisles behind, and it is for the most part in smaller churches that the west front becomes an expression of the structure of the building. It is probable that in placing their towers the mediæval builders were fully aware of the unsatisfactory nature of the outlines given by structural form, and concealed them where it was possible to do so, while further south the Italians showed in the west fronts of Siena, Orvieto, and other cathedrals how little regard they had for the truthful or logical exposition of construction, though it must be admitted that in the early Renaissance the disregard of structural form was carried even further, as many of our Elizabethan and Jacobean structures testify. But criticism has been so largely concentrated on the vices of the Renaissance that the sins of earlier times have passed almost unnoted. Most Southern races attach a relative importance to external treatment which has no counterpart here, though there are exceptions to the general rule. The Byzantine builders built from within outwards, and were usually careless of the external effects of their design, governed as it was by the desire to enshrine the mysteries of religion. The architecture of the Egyptians was the expression of mystery and organised priestcraft, and was concentrated chiefly on the treatment of internal courtyard and the manipulation of form to obtain effects of light and shade in their many-columned hall. But the complaint preferred against our architects that they consider external effect often to forgetfulness of internal convenience shows the national trend of thought. The cult of the Renaissance, which implies the consideration of proportion and order in form, introduced an element which had been before unthought of, the operation of which was to lead to greater concentration of thought on external considerations; and the task of the English architect is to combine this with a greater attention to internal considerations of design than is usually applied in more Southern lands, so as to combine the natural craving for comfort with the more ordered consideration of architectural qualities only fully understood by the cultured. According to a strictly logical or truthful standpoint, a balustrade or parapet is inadmissible unless it is the outcome of actual necessity, for a parapet frequently conveys the impression that a building is higher than it really is, while the purpose of a balustrade is to secure the safety of those using a platform or balcony.

But if we seek sincerity, logic, or truthfulness in structure we find few of the great buildings of the past will conform to the conditions we lay down, yet we are conscious that there are limitations which govern the designs which appeal to us, separating them from those which do not. One is that the exterior and interior expression of division shall be the same. The division of St. Paul's and many Renaissance churches into two exterior tiers or orders to express a single interior division never completely pleases us, though the same treatment applied to a building having interior galleries seems at once suitable. Conversely, the typical dissenting chapel of the middle of the nineteenth century, with its single external range of windows, severed internally by a gallery, offends our sense of fitness.

But if in a long range of two-storied building it is necessary to introduce a lofty room of the height of two floors, we feel it to be justifiable to light it by a double range of windows, though we are better pleased if a break in the treatment is feasible to express the changed internal condition.

The Chapel Royal at Whitehall, with its two external stories, is justified because it was to form but a part of an immense range of buildings of two stories in height. Had it been designed as an isolated building, Inigo Jones would have been at fault. In the same way it is felt that a few sham windows necessary to give uniformity to an elevation are permissible, but a range of blank windows constituted a defect. Grained woodwork throughout a building, however well it may be carried out, is unpleasant, but we have not the same objection to the marbling of a couple of columns in a large room, nor if for any reason a deal door occurred in a long stretch of oak panelling should we object to having it painted and grained to match the surrounding oak work. If in a long symmetrical front of a building containing lofty and large rooms it is necessary to place a small one, no annoyance is felt because a window far too large for its purpose is placed in it in order to secure the harmony of the façade, but we should be dissatisfied if the alternation of large and small rooms were not marked in some appropriate way in design. Consideration of these and other cases which occur will lead to the conviction that it is not so much truth and logic which we attach high value to in design as broad considerations of reason and fitness conforming to no very definite rules, which lead to the conviction that in matters of art we cannot emulate the certainties of scientific deduction.

There is in art nothing approaching to the logical proof of a scientific truth, because it is reasonable to assume there is nothing analogous to definite truth in art; rather the end to be sought is the golden mean between extravagant fancy and stern utility. Mouldings are the admitted means of subtleties of architectural expression, but, though we can trace how in their rudest form they arose out of the necessities of structure, they have been used almost purely decoratively for some thousands of years.

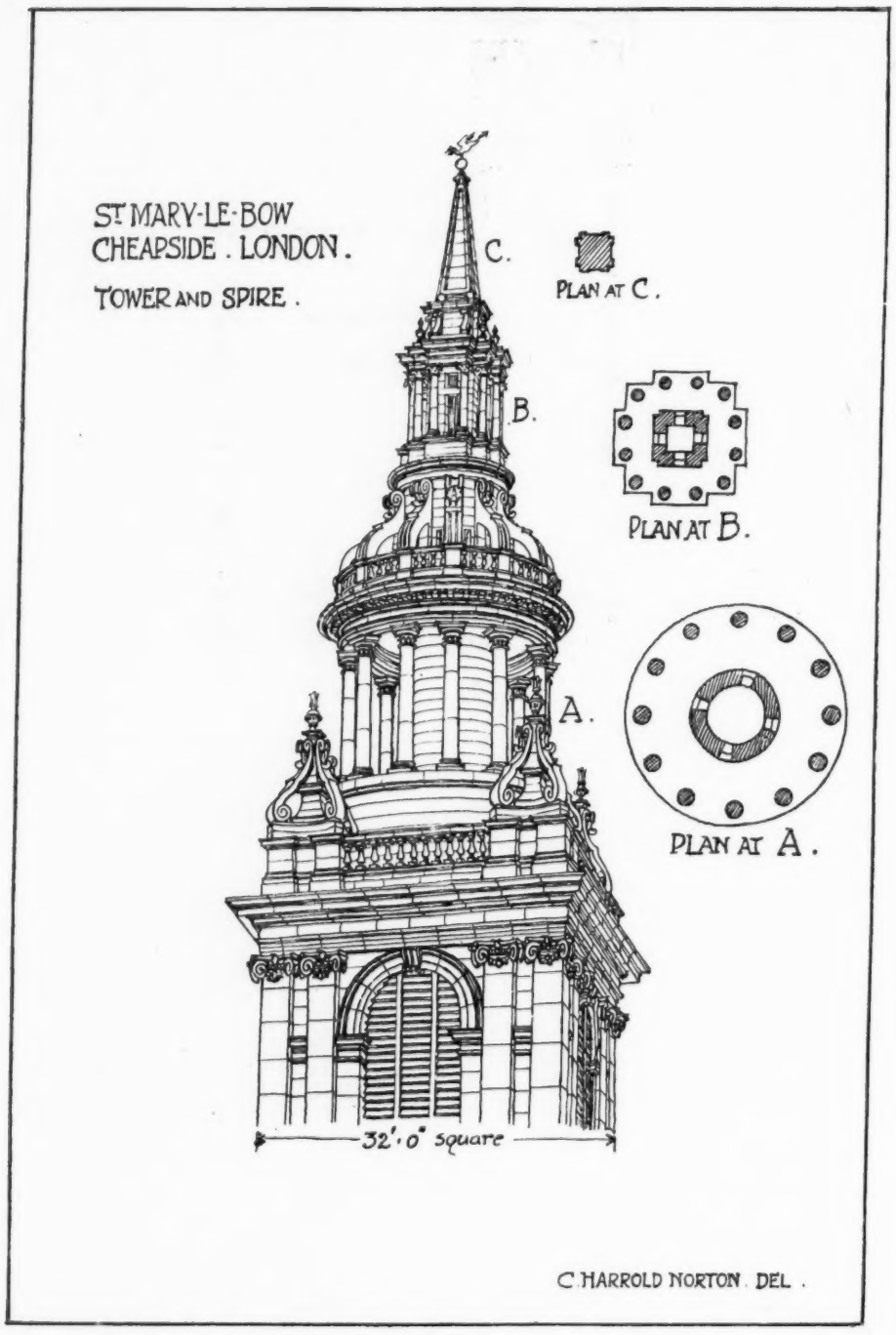
What should be our view of architectural deception when employed for temporary or scenic purposes? An instance in point is afforded by the temporary adjunct erected in front of Westminster Abbey at the time of the Coronation of King Edward. Was it permissible to imitate stone or not? Here it seems to us the sole question was whether the sham stone adjunct was more or less satisfactory in effect than a building of wood. If so, the scheme was abundantly justified in the same way that realism in stage scenery is justified; but if, on the other hand, a wooden building would form a better *mise en scène*, the adopted scheme was an artistic mistake. Any architectural deception which adds to the effect of a great pageant is not only permissible but proper, while the false sentiment and deficient artistic power which makes a Strawberry Hill possible deserves pity and condemnation.

With regard to another form of deceptive imitation—that of nature in architecture—we are on surer ground, and reflection will show that we dislike it for two reasons. Firstly, because it is impossible to imitate nature successfully; and, secondly, if we could do so, the manifestations of nature would suggest growth, change, motion, and decay—in a word, what is transitory; while the greatest charm which a work of art can have is that it should suggest restfulness and permanence. Thus the beauty of a perfect human figure may transcend in its perfection any sculptor's representation; but if it were possible to place in the niches or on the pinnacles of a great building figures so exquisitely modelled and coloured that they would give the impression of life, we should feel uncomfortable, for they would convey a dynamic instead of a static impression, and we should feel them to be out of keeping with the expression of permanence and not in keeping with the building of whose decoration they formed a part. For this reason the decoration of a winter garden in an American theatre carried out with actual foliage preserved in a petrifying solution was bad art, however successful in effect it might have been; nor would many worshippers at the shrine of mediæval art admire the custom that induced many of the mediæval builders to colour the leaves, flowers, and berries in their decorative ornament in natural colours. Such decoration must either have failed because it challenged comparison with nature so well as to do away with the static quality in architectural design, or so badly that it left room for criticism.

Our survey will convince us of the danger of dogmatism and the futility of importing terms which, reasonable and convincing as used in science and other branches of human thought, have no meaning in the confines of art.

SHORTAGE OF HOUSES.

To the "Welsh Housing Year-Book" for 1916 Mr. Henry R. Aldridge, Secretary, National Housing and Town-Planning Council, contributes an article on "Cottage-building after the War," from which we take the following:—"It is difficult to give any kind of valid estimate of the extent of this shortage of houses, but the writer is of opinion that the present shortage is at least 400,000 (of which 100,000 represents the number of cottages which should be built to satisfy rural needs). In the years following the war we shall therefore need to make up this deficit in addition to providing the number of cottages needed annually to meet the normal needs of the growing population. In this relation a leading authority—Mr. A. W. Shelton, of Nottingham—estimates that: 'Every week from 1,500 to 1,600 new houses are required to meet the normal growth of the population. In addition, at least 600 new houses are each week urgently needed to replace worn-out dwellings, or to mitigate overcrowding in congested areas. To provide these requires an annual expenditure of from £25,000,000 to £30,000,000 sterling.'"



THE LONDON CHURCHES OF WREN AND LATER ARCHITECTS OF THE RENAISSANCE.

No. V.—St. Mary-le-Bow.

THE church of St. Mary-le-Bow stands on the site of an older building which was destroyed in the Great Fire. The old church had a troublous history in 1090. The roof was overturned by a tempest of wind in 1196. At a subsequent date it is recorded that "William Fitzosbert, a seditious tailor, took the steeple of Bow and fortified it with munitions and victuals," and the authorities set fire to the steeple in order to dislodge him. In 1271 a great part of the steeple fell down and killed many people. In 1284 one citizen, having wounded another, fled to the church for sanctuary, but the friends of the injured man got in the church at night and killed him, in consequence of which sixteen men were hanged and a woman named Alice, "who caused the mischief," burnt; after which the church was interdicted, the door and windows being "stopped up with thorns."

The steeple was rebuilt, and a few years later "the arches or bows thereupon, with the lanthorns, five in number, to wit, one at each corner and one on the top of the arches, were also finished of stone brought from Caen in Normandy."

These lanthorns were meant to be glazed to light the ways in winter. It was from the term "bow," or "arch," that the church derived its name. It was also known as St. Mary of the Arches, and the Court of Arches was formerly held there. It formed one of the thirteen "Peculiars" of the Archbishop of Canterbury in London, and was, and still is, under his jurisdiction. The church was repaired in 1620, but was totally destroyed in the Fire of London, together with St. Pancras, Soper-lane, and All Hallows', Honey-lane, which were not rebuilt after, their parishes being united with that of St. Mary-le-Bow. The parishes of All Hallows', Bread-street, and St. John the Evangelist were also united with that of St. Mary-le-Bow when the former church was pulled down in 1876.

A Norman crypt with three aisles still exists under the greater part of the existing church, and was apparently lighted directly from the sides, the level of the surrounding ground being lower than at present.

Wren's church was begun in 1671, but was not completed till 1680. Its cost was £15,400—a sum greater than was expended on any other of Wren's churches, the steeple costing nearly half of the whole amount.

The steeple is justly considered to be among Wren's greatest achievements, and he evidently gave especial thought and consideration to it. The great columned doorways set in recessed semicircular openings, with elliptical openings over the entablatures of the doorways, flanked by cupids holding wreaths, are probably the most poetic architectural expression of the period. The tower is faultless in its proportions, its simplicity making a foil both for the rich doorways and the rhythmically-proportioned columned stories of the steeple above. The church is disappointing when we remember that the space at Wren's disposal exceeds that covered by St. Stephen's, Walbrook, and is even squarer in shape—an advantage for a design based on the dome, but a disadvantage in the case of an aisled design. As it is the church forms a nave with two aisles divided into three bays, the detail of which is without distinction. The east and west walls are pierced with a number of windows which are disturbing in internal composition. It has been modernised and much altered at an unfortunate date of which glass, woodwork, and decoration alike bear trace. Wren's original scheme included an arcade between the steeple and Bow-lane, in the space now occupied by shops, which was unfortunately not carried into execution.

There are several interesting monuments in the church, the chief of which was erected in memory of James Cust—who died in 1706—and six of his children, which takes the form of a pedimented feature with a sarcophagus and bust over. Another interesting monument, of a Greek type, is that to Thomas Newton, who obtained the rectory of the church in 1744 and was afterwards created Dean of Salisbury, Bishop of Bristol, and Dean of St. Paul's, and who edited Milton's "Paradise Lost." The monument to Charles Bainton, who died in 1712, is also of interest.

No. VI.—St. Swithin.

The church of St. Swithin is situated immediately opposite Cannon-street Station, between Salters' Hall-court and St. Swithin's-lane. The advowson is in private hands, and the parish was after the Great Fire united with that of St. Mary Bothaw, which was situated on the south side of Cannon-street, and was not rebuilt. The tower and steeple, like that of St. Mary Abchurch, is placed away from the most prominent front of the church, but in this case the loss is not a great one, since the form adopted, in which the square tower is reduced to an octagon by awkward curves, has little merit or charm.

The windows are divided by mullions with small circular lights in the heads—a form of design which is seen to greater advantage externally than internally. The plan, like that of St. Mary Abchurch, is a square, in this case converted into an octagon above. Seven of the angles are marked by half-columns against walls, the remaining angle by a free standing column. Above, the ceiling forms a dome with slightly curved sides, with lunettes on four faces

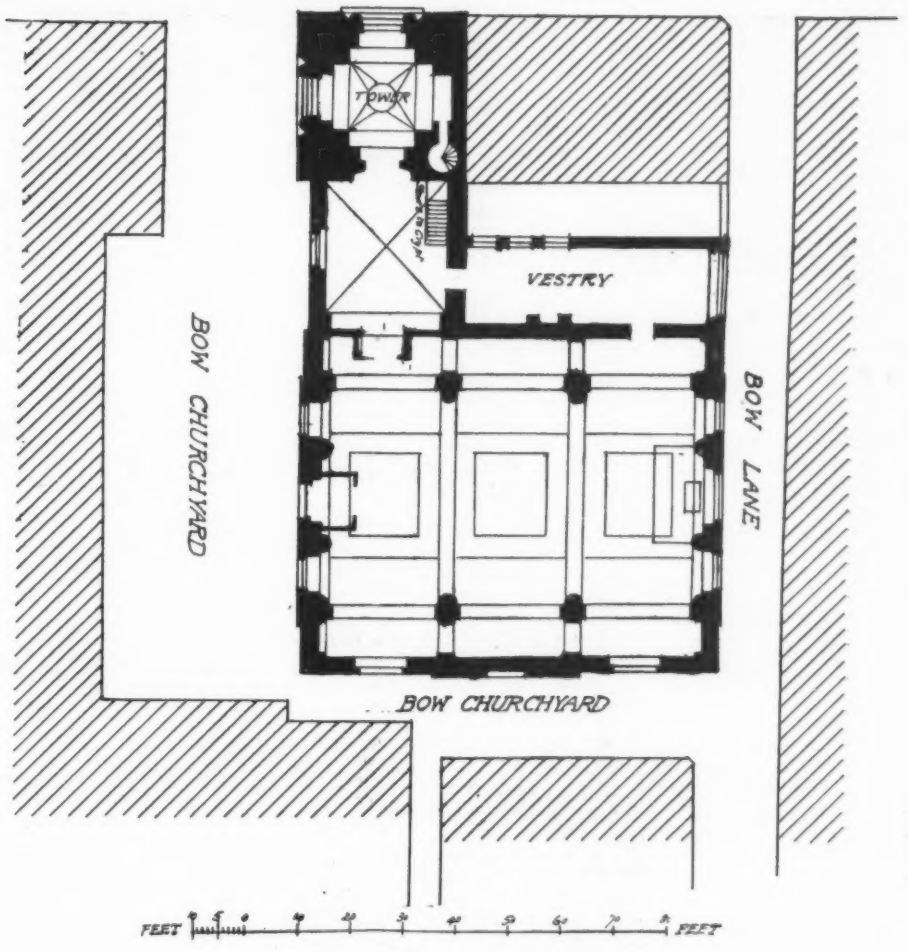
and medallions corresponding in form with the lunettes in the alternative faces, decorative festoons being arranged round the sides of medallions and lunettes.

The woodwork of the church, though altered and partly modernised, is good and interesting, and the church contains some noteworthy monuments, the most noticeable of which is the Baroque one fixed to the face of the free standing column, which affords a good example of the decorative value of Baroque detail in architectural composition.

It was erected to the memory of Michael Godfrey, a financial expert whose experience was of much use in connection with the formation of the Bank of England. Being despatched on important business to Namur, which was being besieged by William III., he was killed by a cannon-ball in 1695.

On the Cannon-street front of the church is fixed the remains of the "London Stone," which is supposed by some authorities to be the central Roman milestone from which all distances were measured.

Although St. Swithin is not among those churches which have suffered most at the hands of the restorer and ecclesiologist, it is to be regretted that it contains the usual coloured glass and ecclesiastical additions which are foreign to its style and the designer's intention. Wren's churches were intended primarily for preaching in an age which made little distinction between the treatment of secular and ecclesiastical buildings. No additions which can be made in the way of decoration can alter the type, while they are as completely out of harmony with the spirit of the original design as they would be in a Calvinistic conventicle. It is a pity that this fact should not be accepted by the Church, as Wren's buildings form a page in the past ecclesiastical history as well as in the architectural records of our country. Their galleries, high-backed pews, pulpits with sounding-boards, clear glass windows, and sober colouring should be considered as forming part of their charm and character, though not necessarily a precedent for modern imitation.



St. Mary-le-Bow, Cheapside.

(Reproduced from the Ordnance Survey Map with the sanction of the Comptroller of H.M. Stationery Office.)

BOOKS.

Structural Design. By HORACE R. THAYER. (London: Constable & Co. Price 16s. net.)

THIS is the second volume by Mr. Thayer on Structural Design, and it deals with the design of simple structures, the author assuming, however, that the reader possesses a knowledge of mechanics, stresses, and the necessary mathematics, and that volume one has also been read by him. The first four chapters are devoted entirely to railway work, and are thus of greater interest to the engineer than the architect, and these are followed by a chapter on the design of steel mill buildings, which contains some useful matter. The two next chapters deal with high office buildings and miscellaneous building work, and these are the most useful to the architect. It is hardly necessary to mention that all the actual examples of high office buildings which are illustrated are in America, the most notable being the Woolworth Building, New York. The details and information dealing with this class of work are interesting and instructive, and the author has spared no trouble to make them complete, even the finishings being fully considered. The types of buildings described under the miscellaneous chapters include theatres, grandstands, assembly halls, railroad stations, and mine structures, and the principal points to consider in the design of the structure in each case are put forward.

The last chapter is devoted to stand pipes and elevated tanks, and this is also quite good. The book is well illustrated throughout and well arranged, and it is a useful addition to the literature on structural engineering.

Clays and Clay Products. By ALFRED B. SEARLE. (London: Sir Isaac Pitman & Sons, Ltd. Price 1s. 6d. net.)

THIS is one of the publishers' series of common commodities of commerce, and no one more competent than the author could have been found to deal with the subject. For that reason the volume forms an admirable addition to this series of little works, which are not intended to exhaust the subject dealt with. The chief aim is to give the commercial man sufficient insight into the nature of the various materials and products described for him to realise the processes involved in their treatment and the extent to which they may be used for the purposes of his own business. The work is illustrated and contains a useful index.

Lime and Cement. By J. G. ADAMS and C. A. ELLIOTT. (London: Blackie & Son, Ltd.)

THIS is an admirable little work for boys and girls, which forms one of the publishers' series of "Rambles among Our Industries." The old trade guild arranged for a "wander year," when an apprentice, having served his time, spent a year in wandering from one master to another before settling to his trade. During the "wander year" the knowledge of the young apprentice was broadened, and he learnt the dignity of his craft. A like purpose has led the publishers to add to this series a number of books dealing with the main industries of the country. The work is illustrated and forms an excellent addition to the series.

Engineering Geology. By HEINRICH RIES, Ph.D., Professor of Economic Geology in Cornell University, and THOMAS L. WATSON, Ph.D., Professor of Economic Geology in the University of Virginia and State Geologist of Virginia. Second edition. (New York: John Wiley & Sons, Inc. London: Chapman & Hall, Ltd. Price 17s. net.)

THIS is the second edition of a valuable work of some 700 pages, divided into eighteen chapters, and containing over 100 plates, 250 figures or diagrams, and two useful indices.

The value of proper geological training for the engineer is admitted, and it is necessary that he should have adequate training in at least the fundamental principles of geology in their relation to engineering problems, and it is these principles with which the book before us deals. The authors state that they have attempted to emphasise the practical application of the topics treated to engineering work, "because hitherto, in many engineering courses of study, the subject of geology has not been given the attention which they think it should receive from both professors and students"—a remark, we believe, which is less true to-day than a few years ago. The work is intended primarily for civil engineers, but the authors hope it will be of use to others interested in applied geology—a hope which this admirable work entitles them to express. The value of the book is enhanced by the addition in the second edition of a chapter on "Historical Geology."

HOSPITAL CONSTRUCTION MATERIAL AND EQUIPMENT, COLUMBIA.

The *Diario Oficial* (Bogotá) of November 16 publishes a law granting 30,000 hectares (about 74,100 acres) of land to the Municipality of Ipiales, in the Department of Nariño. The Municipality will sell this land in lots by public tender and the proceeds of the sale will be devoted to the construction and equipment of a hospital in the town of Ipiales. The plans of the work must be presented to the Colombian Ministry of Public Works for approval.

BUILDING MATERIALS, CANADA.

H.M. Trade Commissioner in Canada (Mr. C. Hamilton Wickes) has forwarded the following inquiries:—A firm in Toronto wishes to be put in touch with United Kingdom manufacturers of building materials other than roofing slates and tiles. (Reference No. 10.) United Kingdom manufacturers of the goods mentioned, and exporters of United Kingdom goods, desirous of initiating business in Canada, may obtain the names and addresses of the respective inquirers on application to the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, London, E.C. In making application the appropriate reference number should be quoted.

THE BUILDING TRADE.

AN ECONOMIC SURVEY OF 1915.

AT the close of a complete year of war it may be of interest to note some of the industrial conditions prevailing in this country generally, and also to note the effect of those conditions on the building trade.

When the possibility of any great war in which this country might be involved was only the subject of speculation the food problem was always much dwelt upon, and alarming pictures were drawn of the straits we might be reduced to, therefore it surely is a ground for considerable thankfulness to find that after seventeen months of the greatest war imaginable the rise in the cost of food is far less than could have been anticipated, and less than half that which has occurred in the continental countries with which we are at war. The average price (retail) of food in this country is 45 per cent. above the level which existed in July, 1914, just before the war, and the rise during the year 1915 has been 23 per cent. In Berlin in November the average price of food was 82 per cent. above the pre-war level, and in October in Vienna prices were 117 per cent. above those prevailing in July, 1914. This unexpected result of the war is due to our Navy, and must be an unpleasant surprise to our enemies, who find themselves occupying the position they had designed for us.

This rise in prices of 45 per cent. would, however, be a serious matter for our industrial population had it not been qualified by two other considerations—a rise in wages and increased opportunities of obtaining work for those who are left at home to carry on the industry of the country.

The changes in the rates of wages, or by war bonuses, have affected 3,165,000 workpeople, and the net result has been an increase of £603,000 per week, which, the *Labour Gazette* states, averages about 3s. 10d. a head. This is exclusive of overtime, and these figures do not include seamen, agricultural labourers, railway servants, police, Government employees, shop assistants, and others.

The mean annual percentage of unemployment for 1915 is 1·1 per cent. as compared with 3·3 per cent. in 1914, and in November and December it was as low as 0·6 per cent.

Although it is to be regretted that any labour disputes should have occurred during the war, yet it will be seen that patriotism has exerted its influence, and, although the number of workpeople involved in disputes is not very considerably less in 1915 than in the preceding year, yet the loss of working days has been but 2,969,700 as compared with 10,111,337. These are the main industrial economic features of this year of war, and we will now consider their bearing on the building trade.

The figures available in the *Labour Gazette* are by no means exhaustive in the case of the building trade, as they refer principally only to carpenters and plumbers, but nevertheless they afford some indication of conditions in the trade. In 1914 134,000 men had their rates of wages changed, with the net result of a gain of £13,600 a week. In 1915 110,000 workpeople had their rates of wages changed, with a nearly similar result, the weekly gain being £13,900. The latter figures would represent about 2s. 6d. increase a head per week. This is, of course, exclusive of overtime. The statistics as to unemployment do not give much idea of the real state of the trade, as so many men have enlisted or gone to other work that there is a shortage of labour. The carpenters and plumbers at the end of the year had 1·6 per cent. unemployed, or 0·5 per cent. less than a year ago. "Insured" workmen had 2·8 unemployed, or 2·7 per cent. less than a year ago.

As regards disputes, 1915 was a peaceful year compared with its predecessor, which witnessed the great dispute in London which lasted all but seven months. The loss of working days was 129,600 as compared with 3,199,426.

We do not know what the rates of wages in Germany have been during the course of the war, but the German trade unions give some returns as to unemployment, and in November they show 4·4 per cent. unemployed amongst building trade operatives and 6·3 per cent. amongst painters.

Building is one of the first trades to suffer in a great war, and we can only be thankful that things are as well as they are. The trade is prepared to endure the hardships of war in order to see a really satisfactory conclusion and to attain a peace founded on really solid foundations; but it is to be hoped that the horrors of war will not be added to by the horrors of hasty and partial legislation which may add to its difficulties for no adequate reason.

PROPOSED NEW BUILDINGS AND OTHER WORKS.*

IN these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works, at the time of publication, have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; L.G.B. for Local Government Board; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council.

Aberdeen.—The T.C. has passed the following plans:—Two dwelling-houses, Orchard-street, for Messrs. Joseph Shirras & Son, builders; addition to engineering works, King-street-place, for Messrs. John M. Henderson & Co., engineers; addition to comb works, Hutcheon-street, for the Aberdeen Comb Works Company, Ltd., per Mr. William Boice, engineer.

Aberystwyth.—The T.C. has approved plans of a building in Castle-street, submitted by Mr. H. H. Davies, Pier-street, and of alterations to the Old Bank premises in Pier-street, by the City Brewery Company, and to 37, Terrace-road, by Messrs. T. Ellis & Co.

Barnes.—Plans approved by the D.C.:—Four houses, Vine-road, Mr. Ernest Bates; four houses, Westwood-road, Barnes, Mr. Ernest Bates; and one house, Percival-road, Mortlake, Mr. Ernest Gale.

Bedford.—Plans passed by the T.C.:—Temporary extensions to aeroplane engine shop, Queen's Engineering Works, for Messrs. W. H. Allen, Son, & Co., Ltd.; storeroom, County Theatre, Midland-road, for the County Theatre; temporary meter house, Hurst-grove, for Messrs. W. H. Allen, Son, & Co., Ltd.

Bexhill.—The Council has accepted a tender for erecting an observation pavilion for the new isolation hospital at £757 6s. 3d.

Bradford.—The committee engaged in providing additional hospital accommodation in Bradford for wounded soldiers has adopted a scheme to increase the accommodation at the War Hospital.

Bradwell (Staffs).—The Staffordshire C.C. has approved an estimate of £1,000 in respect of an advance by way of additional loan to the Bradwell Joint Hospital Committee in respect of additions and alterations to the Bradwell Isolation Hospital, subject to the L.G.B.'s sanction.

Cardiff.—A scheme for the extension of the King Edward VII. Hospital at Cardiff was under consideration at a recent meeting of the board of management. It is estimated that the whole scheme would cost £46,506 for building.

Colombia.—The *Diario Oficial* (Bogotá) of November 16 publishes a law granting 30,000 hectares (about 74,100 acres) of land to the Municipality of Ipiales, in the Department of Nariño. The Municipality will sell this land in lots by public tender and the proceeds of the sale will be devoted to the construction and equipment of a hospital in the town of Ipiales. The plans of the work must be presented to the Colombian Ministry of Public Works for approval.

Cootehill (County Cavan).—The people of Cootehill have decided upon the erection of a new Catholic church.

Darlington.—The R.D.C. has approved a plan for a proposed temporary shed at Geneva Works, for Mr. J. F. Wake; also plan for a house at Heighington, for Mr. F. Dresser.

Dartmouth.—The contract for the erection of a wing to the Royal Naval College, Dartmouth, has been placed with Messrs. G. E. Wallis & Sons, Ltd., of Maidstone. The work will be started without delay.

Denby and Cumberworth.—The U.D.C. has approved plans for a mechanics' shop at Hartcliffe Mills, and the conversion of dwelling-house into a butcher's sale shop for the Scissett Co-operative Society at Denby Dale.

Droitwich.—Plans are before the T.C. for the extension and improvement of the grounds adjoining St. Andrew's Brine Baths and widening the thoroughfare

Dublin.—The L.G.B. has held an inquiry into an application made by the South Dublin R.C. for sanction to a supplemental loan of £10,000 in connection with the Labourers Acts. The Board agreed to sanction a loan of £31,110, being at the rate of £170 per cottage.

Epsom.—Plans approved by the U.D.C.:—Messrs. Seth Smith & Munro, for the Chase Estate, two houses to be built at West Hill-avenue; Mr. E. Stredwick, for the Chase Estate, two pairs of cottages to be built at Upper Court-road.

Greenock.—Greenock Dean of Guild Court has granted Messrs. John Walker & Co., sugar refiners, Princes-street, warrant for the erection of a building to be used as an extension of their cartage platforms and as a sugar store.

Harrogate.—Plans approved by the T.C.:—Mr. F. and Miss Vevers' plan for alterations to Nos. 10 and 10a, James-street; Messrs. Shaw & Co.'s plan for alterations to premises at the rear of shop in James-street.; Messrs. Lawrence & Hall, Ltd., plan for alterations to stabling for furniture repository in Back Skipton-road; Mr. J. Hamilton Brown's plan for garage in Corner-close, Langcliffe-avenue; Mr. A. Hymas's plan for a pair of villas in the Grove, Park Place Estate.

Hilderstone (Staffs).—The Staffordshire C.C. has adopted an amended scheme for the adaptation and division of the Wooliscroft Farm, Hilderstone, into small holdings, subject to the approval of the Board of Agriculture and Fisheries.

Huddersfield.—At a recent meeting of the T.C. the Borough Engineer submitted map showing the laying out of town-planning schemes A, B, and C proposed, also map in connection therewith. It was resolved that the Borough Engineer prepare and submit map showing area for inclusion in the supplemental town-planning scheme.

Irlam.—At a recent meeting of the U.D.C. the Surveyor submitted amended plans and estimates of proposed improvements at the sewage farm, and these having been fully considered, it was resolved on their adoption, at a cost of £15,240.

London.—The L.C.C. has sanctioned expenditure of £58 5s. 8d. for laying wood block flooring at the Effra-parade School (Norwood), and of £230 for strengthening a wall at the Neckinger School (Bermondsey). It has approved plans submitted by the managers of the St. Paul's C.E. non-provided school (Mile End) for carrying out alterations to the premises, and plans submitted by the managers of the St. Michael's R.C. School (Paddington S.) for alterations and improvements to the premises, and by the managers of the Westmoreland-road R.C. School (Paddington S.) for improving and enlarging the premises. The Council has authorised the execution, at the cost specified in each case, of the undermentioned minor works at fire-stations:—Provision of wicket gates in the appliance-room doors at the Whitechapel, Great Marlborough-street, Holborn, and Kentish Town Stations (£49); provision of new boilers for heating apparatus at the Fulham and Kingsland Stations (£101); alterations to the run-out at the Woolwich Station and to the heads of doors at the Bishopsgate and Great Marlborough-street Stations (£40); repairs to appliance-room doors at the Whitechapel Station (£19); strengthening the appliance-room floors at the Great Marlborough-street and Holborn Stations (£220). The Council has also approved drawings showing the arrangements at the undermentioned premises proposed to be erected or adapted for use for public entertainments, and for which licences for music or cinematograph exhibitions have been or will be applied for:—98, Commercial-road (re-approval of drawings of proposed cinematograph hall); Fulham Hippodrome, 443 and 444, Fulham-road (re-approval of drawings); 2-6, Kennington Park-road (re-approval of drawings of proposed cinematograph hall); Kingsley Hall, Botolph-road, Poplar; Lower-road and Albion-street, Rotherhithe (proposed cinematograph hall); Maison Lyons, Shaftesbury-avenue; Strand (Tivoli site), Army Recruiting War Pictures Exhibition; Wimbledon Park-road and Pirbright-road, Southfields (revised drawings of proposed cinematograph hall). It is proposed by Hornsey, Wood Green, and Finchley authorities to acquire the buildings in Oakfield-road which were formerly used as a girls' school and adapt them for the education of children under the Mentally Defective Act.

* See also our list of Competitions, Contracts, etc., on page 95.

Ossett.—Plans passed by the T.C.:—Conversion of cottages into warehouse in Spa-lane, for Messrs. Fawcett & Co.; dwelling-house in New-street, off Manor-road, for Mr. A. F. Peace.

Portobello.—The Edinburgh T.C. has approved of the plans for the new power station at Portobello.

Ramsgate.—Plan approved by the T.C.:—House in Margate-road, owner, Mr. Geo. Griggs; stables and piggeries at Northwood, owner, Mr. Geo. Griggs; belfry at St. Paul's Church, King-street, owners, vicar, etc. The T.C. is to make application to the L.G.B. for sanction to borrow the sum of £413 10s. 4d., further expenditure in connection with the building and equipment of the Ellington Council School.

Richmond (Surrey).—The Corporation has approved of plan for additions to No. 8, Lichfield-road, Mrs. Lowe.

Richmond (Yorks).—The R.D.C. has passed plans for a new cinema at Hipswell Camp.

Rushden.—The Council has passed plans presented by Messrs. Selwood & Co. for corrugated-iron shed to cover gas plant at their factory in Harborough-road; Mr. J. Miller, amended plan showing different site for workshop at rear of house proposed to be erected in Victoria-road.

Southend.—Plans passed by the T.C.:—Garage, Ailsa-road, Mr. A. J. Tucker; addition, 101, Queen's-road, Mrs. Smith; one house, Electric-avenue, Mr. T. J. Dennis; conversion of stable into bakery, 43, Sutton-road, Mr. W. Bray; bungalow, Leigh Hall-road, Mr. H. Bridge; conversion of one house into two, new water-closet, and staircase, The Broadway, Leigh, Mr. S. Hicks; rebuilding house, West-road, Mrs. James; bungalow, Chalkwell Park-drive, Major W. A. Mackie; bungalow, Blenheim-crescent, Mr. S. Sharp.

Spain.—The *Gaceta de Madrid* of January 10 notifies that tenders will be received at the "Dirección General de Obras Públicas, Ministerio de Fomento," Madrid, up to February 3, for the construction of an embankment on the sea front at the port of Corunna, at an estimated cost of 1,498,335 pesetas (about £59,900). The same issue of the *Gaceta* notifies that tenders will be opened by the Municipal Authorities at Vallmoll, on February 12, for the construction of a school building at that town at an estimated cost of 89,548 pesetas (about £3,600).

Surrey.—At a recent meeting of the Surrey C.C. it was reported that arrangements are in progress for the provision of tuberculosis dispensaries at Kingston and Wimbledon.

Weymouth.—Plans passed by the T.C.:—The Wilton Estate, for the erection of a new shop front in St. Andrew's-square; Mr. A. J. Bennett, proposed new petrol store in yard of County Garage, for Messrs. Tilley & Son; Messrs. Bird & Cox, for new shop front at 38, Abbotsbury-road, Westham, for Mr. A. J. Digby; Mr. S. Jackson, for semi-detached maisonnettes, Wyke-road; Mr. S. Jackson, for new drainage at Hillside, Wyke-road; Mr. S. Froom, for cartshed, for Mr. Trask, Abbotsbury-road.

Wombwell.—A plan for a cottage for Mr. Arthur Naylor, in Summer-lane, has been approved by the U.D.C.

Yarmouth.—The T.C. has approved a plan for warehouse at the A.B.C. Wharf, Southgates-road, for Messrs. Newhouse, Ltd.

GENERAL BUILDING NEWS.

TECHNICAL SCHOOL, HITCHIN.

The new Hitchin Technical School, of which Mr. Walter Millard was the architect, has been erected at the rear of the old Town Hall in Brand-street, and incorporated into the older building. It is now open for the reception of pupils. The cost of erection is £3,325. A wide fireproof staircase directly faces the main entrance, at the summit of which is a spacious landing with lantern light and windows. The entrance hall has been laid in teak. At the rear of the ground floor means are provided for the study of carpentry, metal and other manual work, and also for cookery and housewifery. The two first-floor classrooms are capable of being thrown into one and utilised as a lecture-hall or for the purposes of a large class. A smaller room on the same floor is to be used as a teacher's room. The school is lighted throughout by means of electricity, with emergency gas jets, and is heated by radiators. Ventilation is provided by swing casements and hoppers. The floors are of wood blocks or cement, and the walls are colour-washed. Messrs. J. Willmott & Sons were the general contractors for the work. Various parts of the work were carried out by Messrs. Gatward & Sons, Ltd., and Messrs. J. Smallwood & Co. The classrooms were furnished by the Educational Supply Association, and the carpentry school under the direction of Mr. R. R. Bunn, of the St. Albans Technical School.

SAILORS' HOME, AVONMOUTH.

The new Sailors' Rest and Home, Meadow-street, Avonmouth, has recently been opened by the Lord Mayor of Bristol and the Lady Mayoress. The premises have a prominent southerly aspect in Meadow-street, and the entrance lobby leads direct to a spacious restaurant and sitting-room. At the far end is the kitchen and serving department, with storage and pantry accommodation. On the first floor are fifteen cubicles arranged round the dormitory. The work has been carried out by Mr. Longden. The architects are Messrs. La Trobe & Weston.

TRADE NEWS.

Boyle's latest patent "air-pump" ventilators have been adopted for the pump-room and mechanics' workshop at Meadow-lane Gas Works for the City of Leeds Gas Department.

The Dufftown Isolation Hospital is being supplied with Shorland's warm air ventilating patent Manchester stoves by Messrs. E. H. Shorland & Brother, Ltd., of Failsworth, Manchester.

Messrs. Kerner-Greenwood & Co. have sent us particulars of a test with Pudlo which has been carried out by the Japanese Imperial Government. A diagram sent to us shows that by comparison with a Japanese, German, and American waterproofer Pudloed cement with 2 of sand and also 3 of sand is more waterproof than the others in a neat cement mixture. The fact that Pudloed cement is able to carry two or three times its bulk in sand is certainly worthy of consideration, even if only from an economical standpoint. We should state that a waterproofer in powder form helps towards the ultimate success of the work owing to its stable nature, and also because the ingredients with which it is mixed are granular, thus ensuring a thorough mixture. There can also be no evaporation and no loss of strength. In fact, Pudlo actually improves with age. Pudlo is entirely British in composition, and is manufactured and sold in this country.

THE LONDON COUNTY COUNCIL.

THE first meeting of the London County Council after the Christmas recess was held on Tuesday in the County Hall, Spring-gardens, S.W., Mr. Cyril Jackson, Chairman, presiding.

Loan.—Sanction was given to the borrowing by the Hackney Borough Council of £3,000 for contribution towards cost of street improvements.

Elementary School, Croydon.—The Croydon Local Education Authority have notified the Education Committee of their intention to provide a new public elementary school for about 200 children in the neighbourhood of Broad-green, Croydon.

Eleventh Asylum.—It was reported by the Asylums and Mental Deficiency Committee that in consequence of representations from the Finance Committee H.M. Treasury have intimated that they are not prepared to approve of the continuance of expenditure for the erection of the Eleventh Asylum, and the Committee have taken steps to stop work on the buildings as early as possible.

New County Hall.—The Establishment Committee reported that they had authorised the settlement at £1,650 and £6,000 of claims of Messrs. Holloway Brothers, Ltd., in respect of certain machinery, etc., in their premises on the site of the new County Hall. The Committee have arranged for the sale of the machinery in question. The Committee have approved a proposal for the extension, at an estimated cost of £1,500, of the return of the river wall some distance further behind the existing river front than was contemplated, and have arranged for the work to be executed by Messrs. Morrison & Mason, Ltd., the contractors for the river wall extension, as an extra on their contract.

Alterations at Existing Places of Public Entertainment.—The Theatres and Music Halls Committee have approved arrangements with respect to the undermentioned premises:—75, Balham High-road—alterations to operating, etc., enclosures, provision of tea-room; Bear-street, Leicester-square (Cinema de Paris)—alterations in the ventilating arrangements, formation of draught lobby; 326, Bethnal Green-road—rearrangement of lavatory accommodation and ventilation; 54-55, Blackfriars-road—rearrangement of seating; Broadway Theatre, Deptford—conversion of theatre for use for cinematograph entertainments; 105-107, Charing Cross-road—alterations; Coldharbour-lane, Brixton (Electric Pavilion)—provision of landing at head of north-east exit steps; 17, Crawford-place, Marylebone—ventilation arrangements; 192-196, East India Dock-road—ventilation arrangements; 280, Edgware-road—provision of draught doors in vestibule and corridors; Empire Theatre of Varieties, Leicester-square—provision of temporary cinematograph enclosure; 17-19, Great Windmill-street—alterations; Grove Vale, East Dulwich (Imperial Hall) — alterations; High-street, Clapham (Electric Pavilion)—alterations; 133, High-street, Deptford—alterations in ventilation of cinematograph enclosures and formation of

ROOFTITE
a high grade pure BITUMEN
ROOFING
APPROVED BY WAR OFFICE. REQUIRES NO ANNUAL TOP DRESSING.
British Made at Kirkintilloch by
F. McNEILL & CO., Ltd.,
SPENCER HOUSE, 4, SOUTH PLACE, LONDON, E.C. (Established, Bunhill Row, London, 1833.)

RATES OF WAGES IN THE BUILDING TRADE.

THE following are the present rates of wages in the Building Trade in the principal towns of England and Wales. It must be understood that, while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur:—

——	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Masons' Labourers.	Bricklayers' Labourers.	Plasterers' Labourers.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Aberdare	9	—	9½	9½	—	9	8	6½	6½	6½
Accrington	10	10	9½	9½	9	9	9½	6½	6½	6½
Altrincham	9½	10	10½	10	8½	10	9	6½	7	7
Ashton-under-Lyne	10½	10½	10	10½	9	10	9	6½	6½	7½
Barnsley	9½	9½	9½	9½	9	9	8½	7½	7½	7½
Barrow-in-Furness	9½	10	9½	9½	9½	9½	9½	7	7	7
Barry	9½	9½	9½	10	—	9	8½	6½	6½	6½
Bath	8½	8½	8½	8	7½	8	7½	6	6	6
Bedford	8	8	8	8½	8	9	6½	5½	5½	6
Birkenhead	11	11	11	11½	11	11	9½	7	7	7
Birmingham	11½	11½	11½	11½	10½	11½	9½	8½	8½	8½
Bishop Auckland	9	9	9	9	10	9	7½	6	6	6½
Blackburn	10	10½	10	10	9½	10	9½	6½	7½	7½
Blackpool	10½	9½	9½	9½	8½	9½	8½	6	6	6
Bolton	10	10½	10	10½	10	10	9½	6–7	7	7
Bournemouth	8½	9	9	9	8½	9	8½	6½	6½	6½
Bradford	10	10	9½	9½	10	10	8½	7	7	7
Bridgwater	6½	6½	6½	6½	6½	6½	6	4	4	4
Brighton	9	8½	8½	8½	—	8	7	6	6	6
Bristol	10½	10½	10½	10½	—	10½	9½	8	8	8
Burnley	10	10½	9½	9½	8	9½	9½	7	7	7½
Burton-on-Trent	9	9	9	9½	9	9	8½	6½	6½	6½
Bury	10½	10½	10	9	9½	10	9	6	7	7
Cambridge	9½	9	9	9½	9½	9½	7½	6	6	6
Canterbury	8½	8	8	10	—	8½–9	7	5	5	5
Cardiff	10½	10½	10½	10½	10½	10½	9½	7½	7½	7½
Chatham	8	9	9	9	9	9	7½	6	6	6
Chelmsford	8	7½	8½	9	—	7½	6½	5	5	6½
Cheltenham	8½	8½	8½	8½	—	8½	8½	6	6	6
Chester	9½	10	10	9½	9½	9½	8½	6½	7	6½
Chesterfield	9	9	9	8	9	8½	8½	5½	5½	5½
Colchester	8	8½	8½	9	8	9	6	5½	5½	5½
Coventry	10½	10½	10½	10½	9½	10½	9½	7½	7½	7½
Crewe	7½	8	7½	9	8½	8	7½	5½	5½	6
Darlington	9½	10	10	10½	10	9½	8½	7	7	7
Derby	9½	9½	9	9	9	9	8	6½	6½	7
Doncaster	9½	9½	9	9	9	9	8	6½	6½	7
Dudley	8½	8½	8½	8½	8½	8	7½	6½	6½	6½
Durham	9	9	9½	9	10	9	8½	6	6	6½
East Glam. and Mon. Valleys	10	10	10	10	—	—	9	7	7	7
Exeter	8	8½	8	8½	7½	7½	7	5½	5½	5½
Folkestone	8½	8½	8½	9	8½	8½	7–7½	6½	6½	6½
Gloucester	8	8½	8½	8	8	8½	8	5½	5½	5½
Grantham	8	8	7½	7½–8	7½–8	7	6½	5	5	5
Grays	—	10	10	—	—	9½	8½	7	7	7
Grimsby	9	9	9	9½	9	9	8½	7	7	7
Great Yarmouth	8	8	8	—	8	8	6½	5	5	—
Halifax	10	10	9½	8½	8½	9	8½	7	7	7
Harrogate	9½	9½	9	9	8	9½	8½	6½	6½	6½
Hartlepools	10	10½	10½	10½	10	10	9	7½	7½	8
Hastings	8½	8	8	8½	8	8	7	6½	5½	6½
Hereford	8	8	7½	8½	8	7	7	5½	5½	5½
Huddersfield	10	10	9½	9½	10	9	8½	7½	7½	7½
Hull	10½	10	10	10	10	10	9	8	8	8
Ipswich	8½	8½	8½	9	9	8½	7	5½	5½	5½
Lancaster	10	10	9	9	9	9	9	6	6	6½
Leamington Spa	9	9	9	8½	9	9	8	6	6	6
Leeds	10½	10½	10½	10	10	10	8½	7½	7½	7½
Leicester	10½	10	10½	10½	11	10	9	7½	7½	8
Lincoln	9	8½	8½	9	8½	8½	8	6	5½	6½
Liverpool	11	11	11	11	10½	11	9½	7	7	7
Llanelly	9½	9½	9½	8½	9	8½	8	5½	5½	5½
London	11½	11½	11½	11½	—	1s.	9	8	8	8
Loughborough	9	8½	8½	9	9	8½	7½	5½	5½	6½
Luton	9½	9	9	8½	9	8½	7½	6½	6½	6½
Maidstone	9	9	9	9	9	9	8	6	6	6
Manchester	11	11	11	11	10	11	9½	7½	7½	7½
Mansfield	8½	9	8½	8½	—	8½	8	6	6	—
Merthyr Tydfil	9½	9½	9½	9½	8½	9	8	6½	6½	6½
Middlesbrough	10	10½	10½	10½	10	10	8½	7½	7½	8
Newcastle-on-Tyne	11	11	11	11	10	10	9½	7½	7½	7½
Newport, Mon.	10	10	10	10	8½	10	9	7	7	7
Northampton	9	9	9	9	8½	9	8	6	6	6
Norwich	8½	8½	8½	8½	8	8½	7½	6	6	6
Nottingham	10½	10½	10½	10½	9½	10	9	8	8	8
Oldham	10½	10½	10½	10	9	10	9½	7	7	7½
Oxford	9½	9	9	9	8	9	8	6½	6½	6½
Plymouth	9	9	9	9	9	9	8	6½	6½	6½
Pontypridd	9½	9	9	9½	9	9	8	6½	6½	6½
Portsmouth	9½	9½	9½	9½	—	8½	7½	7	7	7
Preston	10½	10½	10	9½	9½	10	9½	6	7	7½
Reading	8½	9	9	9½	—	9	7½	6	6	6
Rochdale	10½	10½	10	10	8½	10	9	7	7	7½
Rochester	8	9	9	9	9	8½	7½	6	6	6
Rugby	9½	9½	9½	9½	8	9½	8½	6	6	6
St. Albans	9	9	9	9–10	9	9–10	8	6½	6	6½
St. Helens	9	9½	10	9½	9½	9½	9½	6	6½	6
Scarborough	9	9½	9	8½	8	9	8	7	7	7
Sheffield	10½	9½	10½	9½	10	10	9	7½	7½	7½
Shrewsbury	8½	8½	8½	9½	—	8½	7	5½	5½	5½
Southampton	8½	9½	9½	8½	—	9½	8½	6½	6½	6½
Southend-on-Sea	9	9	9	9	P'cework	9	7	6	6	6
Southport	10	10	9½	9½	9½	9½	9½	6½	7	7
South Shields	11	11	11	11	10	8½	9½	7½	7½	7½
Stockport	10½	10	10	10½	9½	10	9½	6	6½	7½
Stockton-on-Tees	10	10½	10½	10½	10	10	9	7½	7½	8
Stoke-on-Trent	9	9½	9	9	—	8½	8½	6	6	—
Stroud	7½	7½	7½	7½	7½	7½	7	5	5	5
Sunderland	11	11	11	10½	10	9	9½	7½	7½	7½
Swansea	9½	9½	9½	9½	8½	9	9	6½	6½	6½
Taunton	7	7	7	7	—	6	6½	4½	4½	4½
Torquay	8	8	8	8	8	8	8	6	6	6
Wakefield	9½	9½	9	9½	8½	9	8	7	7	7
Walsall	9½	9	9	9	8½	10	8	6½	6½	6½
Warrington	8½	10½	10½	10½	8½	10½	9½	6½	6½	6½
West Bromwich	10	10	10	10½	—	9	8	7	7	7
Wigan	10	10½	9½	9½	9	9½	9½	7	7	7
Windsor	9	9	9	10	—	9	—	6	6	6
Wolverhampton	9½	9½	9½	10	8	10	8	6½	6½	6½
Worcester	8½	9	9	9	9	9	7½	6	6	6
York	9½	9½	9	9½	9½	9	8½	7	7	7

The mason's rate given is for bankers; fixers usually ½d. per hour extra.

staff-room; 315-317, Kennington-road—provision of lavatory for women; 197, Kentish Town-road—rearrangement of seating; 432, Kingsland-road—alterations to seating; 510, Kingsland-road—sanitary arrangements; King's Hall, High-street, Tooting—construction of proscenium; 148-150, King's-road, Chelsea—provision of windows for lighting the hall by natural means and of ventilating fans, etc.; Lewisham High-road (Lewisham Cinema)—arrangement of seating; Lewisham Hippodrome—provision of additional dressing-room accommodation; Lyceum Theatre—reconstruction of stage skylight; New Gallery Kinema, 121A, Regent-street—alterations; New Grand Theatre of Varieties, Clapham—rearrangement of seating at area level; 260-262, North End-road—rearrangement of seating, etc., alterations to electrical installation, ventilating arrangements for operating enclosure; 1 and 2, Osborn-place, Whitechapel—reconstruction and extension of cinematograph hall; Playhouse, Northumberland-avenue—alterations to orchestra space and enlargement of band-room; 191, Portobello-road—provision of windows for providing means of natural lighting and of ventilating fans, etc.; Premierland, Backchurch-lane—heating installation; Putney Bridge-approach (Putney Bridge Kinema)—additions and alterations; Queen-street and Bridge-road, Hammersmith (Broadway Cinema)—additional ventilation arrangements; Royal Victoria Hall, Waterloo-road—provision of doors between the hall and the adjoining coffee tavern; St. James's Theatre—provision of temporary cinematograph enclosure; St. Martin's Theatre, West-street, Shaftesbury-avenue—installation of scenery-raising and lowering gear, fire curtain, fire mains and hydrants, ventilating arrangements, etc.; Shaftesbury Theatre—alterations; 169-171, Upper Richmond-road (Putney Electric Palace)—alterations in the ventilating arrangements; 164, Uxbridge-road — alterations to operating enclosure and pay-box electrical and gas installations; 221, West Ferry-road—provision of additional seating at the rear of the south block of seating.

NEW COMPANIES.

THE undermentioned particulars of new companies recently registered are taken from the Daily Register compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, Chancery-lane, W.C.:—

J. S. BRIGGS & SONS, LTD. (142,599). Registered January 1. To acquire, take over, and carry on business hitherto carried on by J. S. Briggs & Sons, at Fairweather Green, Bradford, and to carry on business of producers, manufacturers, sellers of bricks, tiles, coals, coke, ironstone, clay and other mineral substances, mechanical engineers, builders, contractors, etc. Nominal capital, £6,000 in 6,000 £1 Ordinary shares.

ANGLITE, LTD. (142,677). Registered January 11. To carry on business of engineers, chemists, merchants, exporters, quarriers and quarry masters, mine owners, builders, property owners, contractors, etc. Nominal capital, £5,000 in 4,500 £1 preferential Ordinary shares, and 10,000 1s. Deferred shares.

WAGES IN THE BUILDING TRADE.

Nottingham.—The Nottingham Building Trades Conciliation Board met on January 17 to hear applications from the bricklayers', joiners', masons', and builders' labourers for an advance of wages on account of the increased cost of living caused by the war. After full consideration the following resolution was agreed to:—"That the bricklayers', joiners', and stonemasons' wages be increased on January 22, 1916, to 10½d. per hour, with a further increase of ½d. per hour to take effect on April 1, 1916, and to terminate three months after the declaration of peace, the wages then to be 10½d. per hour. That the builders' labourers' wages be increased on January 22, 1916, to 8d. per hour, with a further increase of ½d. per hour to take effect on April 1, 1916, and to terminate three months after the declaration of peace, the wages then to be 8d. per hour."

List of Competitions, Contracts, etc.

For some contracts still open, but not included in this List, see previous issues. **Those with an asterisk (*) are advertised in this number:** Competitions, —; Contracts, iv., vi.,; Public Appointments, —; Auction Sales, xx. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

*** It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur.

Contracts.

BUILDING AND PAINTING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

JANUARY 29.—**Skewen (Glam).**—CONVERSION.—For the conversion of Drymma House, Skewen, near Neath, into a Home for Feeble-minded Persons, for the Glamorganshire Joint Poor Law Establishment Committee. Plans, etc., may be seen either at the Drymma House, or at Mr. Thomas Roderick's office, architect, Ashbrook House, Aberdare.

JANUARY 31.—**Ripon.**—ADDITIONS.—Erection of additions to the Spa Baths, Park-street, for the Corporation. Plans, etc., of the City Surveyor.

JANUARY 31.— **Whitlocksworthy.** — REPAIRS, ETC.—For repairs, etc., to farm buildings at Whitlocksworthy, S. Milton, near Kingsbridge. Particulars, etc., of Messrs. Bourne & Sons, land agents, Totnes.

FEBRUARY 2.—**Cardiff.**—ALTERATIONS, ETC.—For the erection and construction of alterations and additions at the Cardiff Sanatorium, and additions at the Cardiff Sanatorium, Canton, Cardiff, for the Cardiff City Council. Contract drawings, specifications, etc., at the City Engineer's Offices, City Hall, Cardiff.

FEBRUARY 10.—**Manchester.**—POWER-HOUSE.—For the work and materials required in the erection of a power-house at their Bradford-road Station, for the Gas Committee. Specification, etc., of Mr. Fredk. A. Price, Superintendent, Gas Department, Town Hall, Manchester. Deposit, £1 1s. Drawings may be seen, the site inspected, and any other information obtained on application to the engineer, Mr. J. G. Newbigging, M.Inst.C.E., at his office, Rochdale-road Gasworks.

FEBRUARY 15.—**Guildford.**—RETAINING WALL.—Erection of a retaining wall for the support of the highway in Quarry-street, Guildford, the construction to be either in mass concrete or reinforced concrete on the Kahn system, for the T.C. Plans, etc., on application to Mr. E. Young Harrison, A.M.Inst.C.E., Borough Engineer and Surveyor. Deposit, £2 2s.

NO DATE.— **Penryn.** — ROOF REPAIRS.— For extensive repairs to roof at Penryn. Particulars of Messrs. M. A. Hearle & Co., Penryn.

FURNITURE, MATERIALS, etc.

JANUARY 29. — **Birmingham.** — BUILDERS' MATERIALS.—Supply to the Public Works Committee of builders' materials for one year, ending March 31, 1917. Forms of tender, etc., at the City Surveyor's Office, Council House, Birmingham. Deposit, £1.

JANUARY 29.—**Llandaff.**—BUILDERS' MATERIALS.—Supply to the Llandaff and Dinas Powis R.D.C. of builders' materials. Forms of tender of the Suveyor, Mr. James Holden, A.M.Inst.C.E., 20, Park-place, Cardiff.

JANUARY 31.—**Stowmarket.**—TAR.—Supply to the U.D.C. of refined tar for the year. Particulars from Mr. G. W. Lingwood, Surveyor to the Council, Butter Market, Stowmarket.

FEBRUARY 2.—**London.**—BUILDERS' MATERIALS.—Supply to the Council of the Royal Borough of Kensington of builders' materials, etc., for six or twelve months, commencing on April 1, 1916. Forms of tender of Mr. Wm. Chambers Leete, Town Clerk, Town Hall, Kensington, W.

FEBRUARY 2.—**Tring.**—BROKEN GRANITE, ETC.—Supply to the U.D.C. for the year ending March 31, 1917, of broken granite, chippings, flints, hoggin, blast furnace slag, refined tar. Forms of tender, etc., of Mr S. S. Gettings, A.M.Inst.C.E., Surveyor, Surveyor's Office, Tring.

FEBRUARY 4.—**Grimsby.**—BUILDERS' MATERIALS.—Supply to the Corporation of builders' materials between April 1, 1916, and March 31, 1917. Specification, etc., of Mr. H. Gilbert Whyatt, M.Inst.C.E., Borough Engineer and Surveyor, Municipal Buildings, 170, Victoria-street, Grimsby.

FEBRUARY 5.—**Wigan.**—BUILDERS' MATERIALS.—Supply to the Tramways Committee of builders' materials for the year ending March 31, 1917. Specifications, etc., of Mr. Frank Buckley, General Manager, Corporation Tramways, Market-place, Wigan.

FEBRUARY 7.—**Cardiff.**—BUILDERS' MATERIALS.—Supply to the Corporation of builders' materials for the period of six months from April 1, 1916. Specifications, etc., at the office of the City Engineer, City Hall, Cardiff.

FEBRUARY 7.—**Hendon.**—BUILDING MATERIALS, ETC.—Supply to the U.D.C. of building materials, etc., for one year from April 1, 1916. Specifications, etc., of Mr. S. Slater Grimley, M.Inst.C.E., Engineer and Surveyor to the Council, Council Offices, Hendon, N.W.

FEBRUARY 7.—**Little Hulton.**—GRANITE, ETC.—Supply to the U.D.C. of broken granite, 4 by 5 granite setts, granite, limestone, and slag chippings, grit kerbs, stoneware pipes and gullies, cement, etc. Forms of tender of Mr. James H. Heyes, Clerk, Council Offices, Little Hulton, near Bolton.

FEBRUARY 7.— **Maldens and Coombe.** — BUILDERS' MATERIALS.—Supply to the U.D.C. of builders' materials, etc. Forms of tender, etc., upon application at the Clerk's Department, Council Offices, New Malden.

FEBRUARY 8. — **Birmingham.** — BUILDERS' MATERIALS.—Supply to the Birmingham Tame and Rea District Drainage Board of builders' materials for one year ended March 31, 1917. General conditions, etc., of Mr. John D. Watson, M.Inst.C.E., Engineer to the Board, Engineer's Office, Tyburn, Birmingham.

FEBRUARY 8. — **Cheshunt.** — BUILDERS' MATERIALS.—Supply to the U.D.C. of builders' materials, etc., during the twelve months ending March 31, 1917. Specifications, etc., of Mr. J. E. Sharpe, Engineer and Surveyor, Manor House, Cheshunt.

FEBRUARY 9.—**Bradford.**—ROAD METAL, ETC.—Supply to the Corporation of road metal, cement, pitch and oil required for street paving purposes, cast-iron gullies, ventilators, and storm grates, glazed earthenware pipes, blocks, and junctions, timber for sewerage and other works. Forms of tender, etc., of Mr. W. H. S. Dawson, City Engineer and Surveyor, Town Hall.

FEBRUARY 12. — **Ossett.** — MATERIALS, ETC. — Supply to the Corporation of materials, stores, workmen's tools, etc., required in the Highways, Gas, Lighting, Water, Sanitary, and Educational Departments for one year from April 1, 1916, to March 31, 1917. Specifications, etc., at the Borough Surveyor's Office.

FEBRUARY 14. — **Cheltenham.** — BUILDERS' MATERIALS. — Supply to the B.C. of builders' materials for the year ending March 31, 1917. Form of tender of Mr. J. S. Pickering, Borough Engineer, Municipal Offices, Cheltenham.

FEBRUARY 14.—**Halifax.**—BUILDERS' MATERIALS.—Supply to the Corporation of builders' materials during the twelve months ending March 31, 1917. Forms of tender, etc., from the Tramways Engineer, Tramways Office, Skircoat-road, Halifax.

FEBRUARY 14.—**Halifax.**—TIMBER, ETC.—Supply to the Corporation of timber, ironmongery, including hacksaw blades, screws, etc., iron castings, tubes and fittings, etc. Forms of tender, etc., at the Office, Electricity Department, Foundry-street, Halifax.

FEBRUARY 14.—**Plomesgate.**—GRANITE, ETC.—Supply to the R.D.C. of about 3,300 tons of broken granite and 2,200 tons of flint, broken or unbroken. Forms of tender of Mr. David R. Read, Clerk, Board Room, Wickham Market.

FEBRUARY 14. — **Richmond (Surrey).** — BUILDERS' MATERIALS.—Supply to the T.C. of builders' materials, etc. Form of tender of Mr. J. H. Brierley, Borough Surveyor, Town Hall, Richmond, Surrey.

FEBRUARY 19.—**Manchester.**—LIME.—Supply to the Rivers Committee, extending over a period of twelve months from April 1 next, of lime (120 tons). Specifications, etc., of the Secretary of the Rivers Department, Town Hall, Manchester.

FEBRUARY 19.—**Stafford.**—BUILDERS' MATERIALS.—Supply to the Corporation of builders' materials from April 1 next to March 31, 1917. Forms of tender of Mr. W. Plant, A.M.Inst.C.E., Borough Engineer, Borough Hall, Stafford. Deposit, 5s.

* FEBRUARY 21.—**Not Stated.**—ROAD MATERIAL.—The Commissioners of H.M. Works and Public Buildings invite tenders for supply of road materials for one year.

ENGINEERING, IRON, AND STEEL.

FEBRUARY 1.—**Castleblaney.**—CHIMNEY SHAFT.—For the erection of a brick chimney shaft at Fane Valley Creamery, Altnamackin, Castleblaney. Plan and specification can be seen and copied at the Creamery. Mr. J. M'Neill, Manager.

FEBRUARY 14. — **Birkenhead.**—HEATING, ETC., PLANT.—For the supply, delivery, and erection at the Union Institution and Infirmary, Derby-road, Tranmere, Birkenhead, of a complete centralised heating and hot water supply plant, together with mains, connections, and accessories, for the Guardians. Forms of tender, etc., of the Consulting Engineers, Messrs. Sloan & Lloyd Barnes, M.I.Mech.E., 34, Castle-street, Liverpool. Deposit, £2 2s.

ROAD, SANITARY, AND WATER WORKS.

JANUARY 29.—**Birmingham.**—GRANITE KERBS, ETC.—Supply to the Public Works Committee of materials for one year ending March 31, 1917, viz.:—Granite kerbs, setts, crossing stones, chippings, flags, paving bricks, wood-paving blocks, ragstone, limestone, tarred limestone, tarred roadstone, gravel, sand, and slag. Forms of tender, etc., at the City Surveyor's Office, Council House, Birmingham. Deposit, £1.

JANUARY 29.—**Rotherham.**—SEWER.—For the laying of about 700 lineal yds. of 9-in. earthenware pipe sewer from Wentworth-road to Barnsley-road, Thorpe Hesley, in the parishes of Wentworth and Rotherham, for the R.D.C. Specifications, etc., at the office of the Council's Engineer, Mr. B. Hey, Imperial Buildings, Rotherham.

JANUARY 29.—**Woodmansterne.**—LAVATORIES, ETC.—Fitting up new lavatories and water-closets, and works of drainage, new boiler and gas fittings, and minor repairs to adapt the Oaks at Woodmansterne for occupation, for the Surrey Joint Poor Law Committee. Drawings, etc., of Mr. Robert M. Chart, F.S.I., Union Bank-chambers, Croydon. Deposit, 10s.

JANUARY 31.—**Desborough.**—BROKEN GRANITE, ETC.—Supply to the U.D.C. of broken granite, slag, gravel, sanitary pipes, etc. blue bricks and paviors, Portland cement. Forms of tender, etc., of Mr. T. F. Parker, Deputy Surveyor, Council Offices, Desborough.

JANUARY 31.—**Dundee.**—EXCAVATION WORK, ETC.—For excavation work, banking, drainage, road-making, etc., to form an extension to the Western Necropolis on south side, for the T.C. Burial Board. Specifications at the Parks and Cemeteries Office, 93, Commercial-street.

JANUARY 31.—**Naas.**—WATER MAIN.—For relaying water main over Ballymanny Hill, for the Naas No. 1 R.D.C. Plan, etc., of Mr. D. J. Purcell, Clerk of Council, Naas

JANUARY 31.— **Northamptonshire.** — BROKEN GRANITE, ETC.—Supply to the Northamptonshire C.C. of broken granite, tar macadam, and slag for the year ending March 31, 1917. Forms of tender of Mr. C .S. Morris, County Surveyor, County Hall, Northampton.

[Those with an asterisk (*) are advertised in this issue.]

ROADS, etc.—*continued.*

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

JANUARY 31.—**South Stoneham.**—MACADAM.—Supply to the R.D.C. of British macadam. Forms of tender may be obtained of Mr. E. Wynter Cross, Clerk, The Workhouse, West End, near Southampton, or of the District Surveyor, Mr. F. Heather, "Chevin Side," Old Portswood, Southampton. Stamped addressed envelopes to be enclosed with all applications for forms.

FEBRUARY 2.—**Middlesex.**—BASALT, ETC.—Supply to the C.C. of about 7,500 tons of 2-in. and 1½-in. hand-broken basalt for road construction, and 500 tons of ½-in. clean chippings. Specification, etc., of Mr. H. T. Wakelam, County Engineer, County Engineer's Office, Middlesex Guildhall, Westminster, S.W.

FEBRUARY 2.—**Middlesex.**—CHIPPINGS.—Supply to the C.C. of about 2,000 tons of Blue Guernsey or Leicestershire clean chippings, for use in connection with tar painting work. Specification, etc., of Mr. H. T. Wakelam, County Engineer, County Engineer's Office, Middlesex Guildhall, Westminster, S.W.

FEBRUARY 2.—**Portsmouth.**—PIPES, ETC., AND STREET WORKS.—For twelve months' supply of stores, etc., to the Corporation from April 1 next, as follows:—Stoneware pipes, castings, street work (excavating for cables, laying pipes, etc.), ironmongery, brushes, and sundries. Forms of tender, etc., can only be obtained at the Electric Lighting Station, Gunwharf-road, Portsmouth.

FEBRUARY 2.—**Renfrew.**—METAL FOR ROADS, ETC.—Supply to the Renfrew First or Upper District of metal for roads for the year from May 15 next; also for borders, setts, and chippings. Specifications, etc., of Mr. James A. M'Callum, District Clerk, 15, West George-street, Glasgow; or Mr. Robert Drummond, Road Surveyor, Fairfield, Paisley.

FEBRUARY 4.—**Essex.**—GRANITE.—Supply to the Essex C.C. of granite for the repair of the main roads for the financial year ending March 31, 1917. Schedules and forms of the County Surveyor, Chelmsford.

FEBRUARY 5.—**Alvaston and Boulton.**—GRANITE.—Supply to the U.D.C. of 150 tons 2½-in. granite, 50 tons of 1½-in. granite. Forms of tender of Mr. Wm. Jno. Holbrook, Clerk to the Council, Alvaston, Derby.

FEBRUARY 5.—**Cuckfield.**—ROAD STONE, ETC.—Supply to the R.D.C. of road stone, roadmen's tools, etc., for the year ending March 31, 1917. Forms of tender, etc., of Mr. A. Macarthur, C.E., Surveyor, Council Offices, Haywards Heath.

FEBRUARY 5.—**Horncastle.**—GRANITE, ETC.—Supply to the R.D.C. of about 4,451 tons of granite (X, XX, and XXX) and about 1,212 tons of slag, etc. (2½ in. and 1½ in.). Specifications, etc., of Mr. J. E. Chatterton, Clerk, Council Offices, Horncastle.

FEBRUARY 9.—**Bradford.**—CARTAGE OF ROAD METAL.—For the cartage of road metal; also for the team labour required in the cleansing and maintenance of the macadamised roads within the several districts of the city, for the twelve months ending March 31, 1917, for the Corporation. Forms of tender, etc., of Mr. W. H. S. Dawson, City Engineer and Surveyor, Town Hall.

FEBRUARY 9.—**Mullingar.**—SEWER, ETC.—For construction of a sewer and necessary connections thereto, at the Mullingar District Lunatic Asylum. Drawings and specifications prepared by Messrs. Doyle & Loughlin, Civil Engineers, Church-street, Athlone, can be seen at their offices, or at the office of Mr. L. Gavin, Resident Medical Superintendent, Boardroom, Mullingar Asylum.

FEBRUARY 11.—**Bexhill.**—DISTILLED TAR.—Supply to the B.C. of distilled tar, tarvia, or other compounds for use in tar-spraying roads during the season of 1916. Mr. T. E. Rodgers, Town Clerk, Town Hall, Bexhill.

FEBRUARY 14.—**Waltham Holy Cross.**—TAR-SPRAYING.—For the tar-spraying complete of about 50,000 sq. yds. of the roads within their district, for the U.D.C. Forms of tender, with official envelopes, may be obtained on application to Mr. W. C. Holloway, A.M.Inst.C.E.I., Engineer and Surveyor, Town Hall, Waltham Abbey, or will be sent through the post upon receipt of a 2d. stamped addressed foolscap envelope.

NO DATE.—**Braintree.**—SEWER.—For laying about 521 yds. of 9-in. glazed stoneware sewer at Church Street, Bocking, and the construction of necessary manholes, etc., for the R.D.C. Forms of tender, etc., of Messrs. E. H. Bright & C. V. Bright, Surveyors, 17, Railway-street, Braintree.

NO DATE—**Ellon.**—DRAINS.—For cutting, laying, and filling-in 350 yds. of a leader drain and 5,140 yds. of furrow drains at North Colehill, Ellon. Offers to Mr. Hugh M'Donald, Land Steward, Ellon.

Auction Sales.

* FEBRUARY 8.—**Alverstoke.**—Mr. H. W. Smith will sell by auction, on the premises, the stock and plant of a builder and contractor, together with wood-working machinery.

* FEBRUARY 9.—Messrs. Churchill & Sim will sell by auction, at the Great Hall, Winchester House, Old Broad-street, E.C., an assortment of deals, battens, boards, timbers, etc.

[Those with an asterisk (*) are advertised in this issue.]

PATENTS.

APPLICATIONS PUBLISHED.*

22,992 of 1914.—John Brown: Device for preventing the shaking of window sashes.

24,721 of 1914.—Louis Rose: Windows.

3 of 1915.—Gerald Dod and The Imperia Company, Ltd.: Grip pipe couplings.

127 of 1915.—Harald Dohrn: Means for lighting theatrical stages and other areas.

145 of 1915.—William Calway.—Pavement kerbs and gutter channels.

797 of 1915.—Spencer Cone Cary: Hoop iron or sheet metal bands.

1,232 of 1915.—Henry Sharrow: Ball taps or ball valves.

1,678 of 1915.—Frederick Arthur Bullivant and George May Selby: Clamping devices for securing together wires, ropes, rods, or the like.

1,718 of 1915.—William Arthur Brookes, John Walter Mason, and John Mason: Stove grates.

1,904 of 1915.—Thomas Richardson: Adaptable fire front to replace bars of register grates and the like.

2,363 of 1915.—Henry Melancthon Pritchard: Building construction.

3,261 of 1915.—Louise Audrey Maurice, executrix of George Maurice, deceased, and Frederick Thomas Cash: Electric-light fittings.

3,911 of 1915.—George Henry Mills: Copper and bath combination.

5,129 of 1915.—Henry Clayton Wood and Wright Hincheliff Brook: Gully traps.

5,879 of 1915.—Wilson Henry Sturge: Combined electric switch and wall plug.

6,093 of 1915.—Charles James Beaver and Ernest Alexander Claremont: Lead-jointing sleeve for electric joints.

7,941 of 1915.—Edmund Percy Wills: Construction of floors.

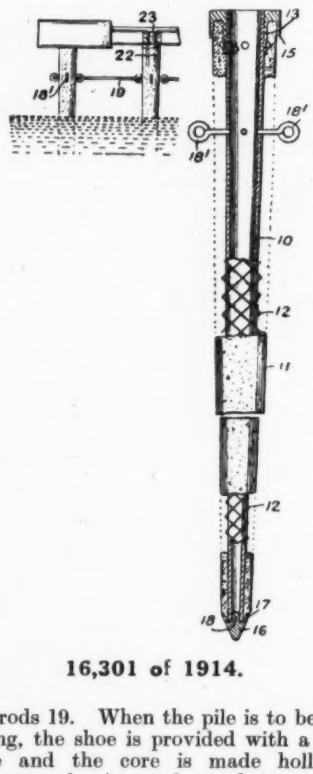
10,356 of 1915.—William Story: Glazing roofs and like structures.

10,384 of 1915.—Moritz Kahn: Metal fabrics for use in ferro-concrete construction.

SELECTED PATENTS.

16,301 of 1914.—Charles Irving Deane: Piles.

This relates to a concrete pile having a metallic core 10 and provided with a head 13 and shoe 16 permanently fastened to the core. A concrete shell 11 is rigidly attached to the core between the head and shoe, its upper end being enveloped by a flange 15 on the head. Reinforcement 12 may be incorporated in the concrete. The shoe is attached by means of an upstanding threaded stud 18, which is surrounded by a recess 17 formed by a flange on the shoe. Eye-bolts 18¹ screwed into the core serve for the connection of stays and

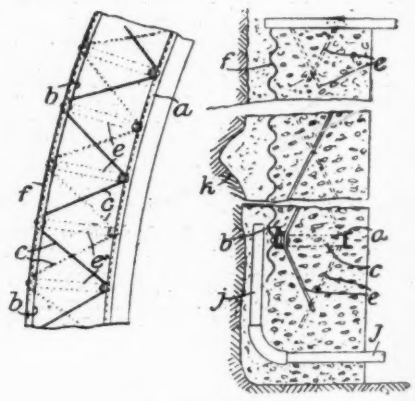


16,301 of 1914.

bracing-rods 19. When the pile is to be driven by jetting, the shoe is provided with a central aperture and the core is made hollow. A post 22 may be inserted at the top of the hollow core for the attachment of connections 23.

16,801 of 1914.—Edmund Lawrence Hann and Christopher Kearton: Wells, shafts, tunnels, etc.

This relates to ferro-concrete lining for wells, shafts, or tunnels, in which the reinforcement consists of a series of ring frames each comprising inner and outer channel-irons *a*, *b* connected by diagonal bracing-members *c*, adjacent ring frames being connected together by diagonal bracing-members *e*. The framework is surrounded by a casing *f* built of metal segments, the segments being preferably flanged and the abutting flanges welded together. The casing may be corrugated,

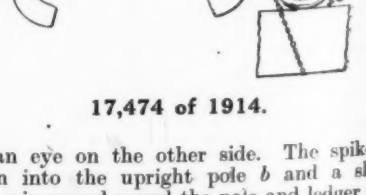


16,801 of 1914.

and recesses *k* may be provided in the wall of the excavation. Cement is introduced behind the casing *f*, as by means of a pipe *j*.

17,474 of 1914.—Sydney Eric Aspland: Scaffolding.

This relates to a device for use in scaffolding, comprising a plate 1 having a chisel spike 3 on its concave side and two hooks 2 or a hook



17,474 of 1914.

and an eye on the other side. The spike is driven into the upright pole *b* and a short chain *c* is passed round the pole and ledger and is hooked to the hooks on the plate. The chain may be secured at one end to the eye on the plate.

* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

PRICES CURRENT OF MATERIALS.

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.]

Since our last issue lead prices have been increased and several other prices altered.—ED.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

Per 1000 Alongside, in River Thames.	£ s. d.
Best Stocks	2 0 0
Picked Stocks for Facings	2 12 0

Per 1000, Delivered at Railway Depôt, London.

	£ s. d.		£ s. d.
Flettons	1 16 0	Best Blue Pressed Staffordshire	3 15 0
Best Fareham Red	3 12 0	Do. Bullnose	4 0 0
Best Red Pressed Ruabon Facing	5 0 0	Best Stourbridge Fire Bricks	4 10 0
GLAZED BRICKS—			
Best White, Ivory, and Salt Glazed Stretchers	13 0 0	D'ble Str'tch'rs	18 10 0
		Double Headers	15 10 0
		One Side and two Ends	19 10 0
Headers	12 10 0	Two Sides and one End	20 10 0
Quoins, Bullnose and 4½ in. Flats	16 10 0	Splays and Squints	18 0 0

Second Quality £1 10s. per 1000 less than best.

	s. d.	
Thames Ballast	7 9	per yard, delivered.
Thames and Pit Sand	8 0	" " "
Best Washed Sand	9 0	" " "

Per ton, delivered.

	£ s. d.		£ s. d.
Best Portland Cement	2 5 0	..	2 8 0

Do. £2 1s. alongside in 80-ton lots.
Ferrocrete 2s. 6d. per ton extra on above.
Best Ground Blue Lias Lime.... 1 3 6 at rly. depôt.
NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.
Grey Stone Lime ..... 17s. 0d. per yard delivered.
Stourbridge Fireclay in s'cks 30s. 0d. per ton at rly. dpt.

STONE.

	s. d.
BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	1 7
Do. do. delivered in Railway trucks at Nine Elms, L. & S.W.R., per ft. cube	1 8½
Do. do. delivered on road waggons, Nine Elms Depôt	1 9½
PORTLAND STONE—	
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Westbourne Park, G.W.R., South Lambeth, G.W.R., or Nine Elms, or L. & S.W., per ft. cube	2 5½
Do. do. delivered on road waggons at Pimlico Wharf or Nine Elms Depôt, per ft. cube	2 6½
White Basebed, 2d. per ft. cube extra.	

Per Ft. Cube, delivered at Railway Depôt.

	s. d.		s. d.
Ancaster in blocks	1 11	Red Corsehill in blocks	2 6
Beer in blocks	1 7	Closeburn Red Freestone	2 2
Greenshill in blocks	2 0	Red Mansfield Freestone	2 6
Darley Dale in blocks	2 6		

YORK STONE—*Robin Hood Quality.*

Per Ft. Cube, Delivered at Railway Depôt.	s. d.
Scappled random blocks	2 10

Per Ft. Super., Delivered at Railway Depôt.

6 in. sawn two sides landings to sizes (under 40 ft. super.)	2 8
6 in. rubbed two sides ditto, ditto	3 2
3 in. sawn two sides slabs (random sizes)	1 0
2 in. to 2½ in. sawn one side slabs (random sizes)	0 8
1½ in. to 2 in. ditto, ditto	0 6½

HARD YORK—

Per Ft. Cube, Delivered at Railway Depôt.

Scappled random blocks	3 0

Per Ft. Super., Delivered at Railway Depôt.

6 in. sawn two sides landing to sizes (under 40 ft. super.)	2 9
6 in. rubbed two sides ditto	3 3
3 in. sawn two sides slabs (random sizes)	1 2½
2 in. self-faced random flags	0 6

TILES.

Per 1000 f.o.r. London.

	£ s. d.
Best machine-made tiles or hand-made sand-faced tiles from either Broseley or Staffordshire district	2 12 6
Ornamental ditto	2 15 0
Hip and valley tiles (per dozen)	0 5 6

SLATES.

Per 1000 of 1200 f.o.r. London.

	£ s. d.
Best Blue Bangor slates, 20 by 10	11 16 0
First quality " "	11 10 0
" " 16 by 8	5 15 0
Best Blue Portmadoc, 20 by 10	11 13 6
First quality " "	11 3 6
" " 16 by 8	5 15 0

WOOD.

BEST BUILDING REDWOOD.

Imported sizes. Per standard.

	£ s. d.		£ s. d.
Deals: 4 in. by 12 in., 4 in. by 11 in., 3 in. by 11 in., 4 in. by 9 in., and 2 in. by 11 in.	25 0 0	..	26 0 0
3 in. by 9 in., 2½ in. by 9 in., and 2 in. by 9 in.	24 0 0	..	25 0 0

WOOD (*Continued*).

BEST BUILDING REDWOOD. Per standard.

	£ s. d.		£ s. d.
Battens: 2 in., 2½ in., and 3 in. by 8 in.; 2 in., 2½ in., and 3 in. by 7 in.; 2 in., 2½ in., and 3 in. by 6 in.; 2 in., 2½ in., and 3 in. by 5 in.	22 10 0	..	23 10 0
Scantlings: 2 in. by 3 in., 2 in. by 3½ in., 2 in. by 4 in., 2 in. by 4½ in.; 3 in. by 4 in., and 3 in. by 4½ in.			
Boards: 1 in., 1¼ in., and 1½ in. by 6 in. and 7 in.	0 10 0	} more than	
¾ in.	1 0 0	} battens.	
Seconds: building quality deals, battens, boards, and scantlings	1 0 0	less than best.	
Best Middling Dantzic and Memel Fir Timber Logs (average specification)	8 10 0	..	—
Seconds do. do.	8 0 0	..	—
9 in. to 10 in. do.	7 0 0	..	—
6 in. to 8 in. do.	6 10 0	..	—
Stocks very limited.			

	Per load.		
Sawn pitch pine logs (about 35 cu. ft. average)	9 0 0	..	9 10 0
Do. 6 in. to 10 in.	7 0 0	..	7 5 0
Sawn Swedish Balks 4 in. by 4 in. to 6 in. by 7 in.	6 10 0	..	7 0 0

Per standard.

Best Pitch Pine Deals	34 0 0	..	35 0 0
Rio do.	23 0 0	..	25 0 0
Under 2 in. thick	0 10 0		extra.

JOINERS' WOOD.

White Sea Frst Quality Red: 4 in. by 11 in.	35 0 0	..	36 0 0
3 in. by 11 in., and 2 in. by 11 in.	34 0 0	..	35 0 0
4 in. by 9 in.	33 0 0	..	34 0 0
3 in. by 9 in., and 2½ in. by 9 in.	32 0 0	..	33 0 0
9 in. by 11 in. boards	1 0 0		more than deals.
7 in. and 8 in. battens	24 0 0	..	25 0 0
7 in. and 8 in. boards	1 0 0		more than battens.
Seconds quality	2 0 0		less than best.
Third quality	£2 to £3		less than seconds.
Archangel White Deals—			
Best 3 in. by 11 in.	28 0 0	..	29 0 0
3 in. by 9 in. and 10 in.	26 0 0	..	27 0 0
Seconds, do.	1 10 0		less than best.
U.S. Battens	19 10 0	..	20 0 0

Prepared Floorings and Matchings, Seconds Swedish Red and equal—

	Per square actual.		
1¼ in. by 7 in. planed and shot	1 5 6	..	1 10 0
1¼ in. by 7 in. planed and matched	1 6 0	..	1 10 0
1 in. by 7 in. planed and shot	1 0 0	..	1 3 0
1 in. by 7 in. planed and matched	1 0 0	..	1 4 6
⅞ in. by 7 in. planed, matched and beaded, or V jointed	0 16 0	..	0 17 6
1 in. by 7 in. do.	1 1 0	..	1 3 6
⅞ in. by 7 in. do.	0 13 0	..	0 14 0

6 in. at 6d. per square less than 7 in.
5 in. and 5½ in. at 6d. per square less than 6 in.

	Per standard.		
Columbian or Oregon Pine, best quality	35 0 0	..	40 0 0
Yellow Pine—First, regular sizes	57 0 0		upwards.
Oddments	39 0 0		"
Seconds, regular sizes	43 10 0		"
Oddments	37 10 0		"
Kauri Pine—Planks per ft. cube	0 7 6	..	—
Oak Logs—			
Large, per ft. cube	0 6 0	..	0 6 6
Small " "	0 5 0	..	0 5 6
Wainscot Oak Logs, per ft. cube	0 10 6	..	0 12 6
Dry Wainscot Oak, per ft. super, as inch	0 1 0	..	0 1 3
¾ in. do. do.	0 0 10	..	0 1 0
Dry Mahogany — Honduras, Tabasco, per ft. super, as inch	0 1 0	..	0 1 4
Selected, Figury, per ft. super, as inch	0 1 6	..	0 2 6
Cuba Mahogany	0 1 6	..	0 2 6
Dry Walnut, American, per super, as inch	0 1 0	..	upwards. 0 1 3
French, "Italian," Walnut	0 1 0	..	0 1 6
Teak, per load (Rangoon or Moulmein)	28 0 0	..	34 0 0
Do. do. (Java)	25 0 0	..	27 0 0
American Whitewood planks, per ft. cube	0 6 6	..	0 7 6

METALS.

JOISTS, GIRDERS, &c.

	In London or delivered Railway Vans, per ton.		
Rolled Steel Joists, ordinary sections, basis price	£ s. d. 20 5 0	..	£ s. d. 21 5 0
Plain Compound Girders, ordinary Sections	22 0 0	..	23 0 0
Plain Compound Stanchions	23 0 0	..	24 10 0
Angles, Trees, and Channels, ordinary sections	20 10 0	..	21 10 0
Flitch Plates	20 10 0	..	21 10 0
Cast Iron Columns and Stanchions, plain ordinary patterns	13 10 0	..	14 0 0

(Turning extra.)

METALS (*Continued*).

Per ton, in London.

IRON—	£ s. d.		£ s. d.
Common Bars	16 0 0	..	—
Staffordshire Crown Bars, good merchant quality	16 10 0	..	17 0 0
Staffordshire "Marked Bars"	17 0 0	..	17 10 0
Mild Steel Bars	16 10 0	..	17 0 0
Steel Bars, Ferro-Concrete quality, £17 10s. basis price.			
Hoop Iron, basis price	17 10 0	..	—
" " Galvanised	30 0 0	..	35 0 0

(* And upwards, according to size and gauge.)

Sheet Iron Black—			
Ordinary sizes to 20 g.	18 0 0	..	—
" " 24 g.	19 0 0	..	—
" " 26 g.	20 0 0	..	—
Sheet Iron, Galvanised flat, ordinary quality—			
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	29 0 0	..	—
Ordinary sizes to 22 g. and 24 g.	29 10 0	..	—
Ordinary sizes to 26 g.	32 0 0	..	—
Sheet Iron, Galvanised, flat, best quality—			
Ordinary sizes to 20 g.	30 0 0	..	—
" " 22 g. and 24 g.	30 10 0	..	—
Ordinary sizes to 26 g.	33 10 0	..	—
Galvanised Corrugated Sheets—			
Ordinary sizes, 6 ft. to 8 ft. 20 g.	28 0 0	..	—
Ordinary sizes, 22 g. & 24 g.	28 10 0	..	—
Ordinary sizes, 26 g.	29 0 0	..	—
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	19 15 0	..	—
Best Soft Steel Sheets, 22 g. & 24 g.	20 0 0	..	—
Best Soft Steel Sheets, 26 g.	21 15 0	..	—
Cut Nails, 3 in. to 6 in.	18 10 0	..	19 0 0

(Under 3 in., usual trade extras.)

LEAD, &c.

Delivered in London.

	£ s. d.		
LEAD—Sheet, English, 4 lb. and up	37 10 0	..	—
Pipe in coils	38 0 0	..	—
Soil pipe	41 0 0	..	—
Compo pipe	41 0 0	..	—

NOTE—Country delivery 20s. per ton extra; lots under 5 cwt. 1s. per cwt. extra.

COPPER—			
Strong Sheet per lb.	0 1 5	..	—
Thin " "	0 1 6	..	—
Copper nails "	0 1 5	..	—
Copper wire "	0 1 5	..	—
BRASS—			
Strong Sheet "	0 1 3	..	—
Thin "	0 1 4	..	—
TIN—English Ingots "	0 1 10	..	—
SOLDER—Plumbers' "	0 0 10	..	—
Tinmen's "	0 1 0	..	—
Blowpipe "	0 1 2	..	—

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES AND IN SQUARES IN ORDINARY SIZES.

	Per Ft.		Per Ft.
15 oz. thirds	5½d.	32 oz. thirds	8½d.
21 oz. thirds	6½d.	" fourths	7½d.
" fourths	5½d.	Fluted Sheet, 15 oz.	5½d.
26 oz. thirds	7d.	" 21 oz.	6½d.
" fourths	6½d.		

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per Ft.
¼ Rolled plate	4d.
⅜ Rough rolled and rough cast plate	4½d.
½ Rough rolled and rough cast plate	4½d.
Figured Rolled, Oxford Rolled, Oceanic, Arctic, Muffled, and Rolled Cathedral, white	5d.
Ditto, tinted	6½d.
Rolled Sheet	4d.

OILS, &c.

		£ s. d.
Raw Linseed Oil in pipes per gallon		0 3 9
" " " in barrels	"	0 3 10
" " " in drums	"	0 4 1
Boiled " " in barrels	"	0 4 0
" " in drums	"	0 4 4
Turpentine in barrels	"	0 4 5
" in drums	"	0 4 8
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)		44 5 0
Red Lead, Dry per ton		42 10 0
Best Linseed Oil Putty per cwt.		0 11 0
Stockholm Tar per barrel		1 12 0

GENUINE WHITE LEAD PAINT—

"Blackfriars," "Nine Elms," "Park," and other best brands (in 14 lb. tins) not less than 5 cwt. lots per ton delivered	55 15 0

VARNISHES, &c.

	Per gallon. £ s. d.
Fine Pale Oak Varnish	0 8 0
Pale Copal Oak	0 10 6
Superfine Pale Elastic Oak	0 12 6
Fine Extra Hard Church Oak	0 10 0
Superfine Hard-drying Oak, for seats of Churches	0 14 6
Fine Elastic Carriage	0 12 9
Superfine Pale Elastic Carriage	0 16 0
Fine Pale Maple	0 10 0
Finest Pale Durable Copal	0 18 6
Extra Pale French Oil	1 1 0
Eggshell Flating Varnish	0 18 0
White Pale Enamel	1 4 0
Extra Pale Paper	0 12 0
Best Japan Gold Size	0 10 0
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 8 0
Berlin Black	0 16 0
Knotting	0 10 0
French and Brush Polish	0 10 0

TO CORRESPONDENTS.

NOTE.—All communications with respect to literary and artistic matters should be addressed to "THE EDITOR" (and not to any person by name); those relating to advertisements and other exclusively business matters should be addressed to THE BUILDER LTD., and *not* to the Editor.

All communications must be authenticated by the name and address of the sender, whether for publication or not. No notice can be taken of anonymous communications.

The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the authors.

We cannot undertake to return rejected communications; and the Editor cannot be responsible for drawings, photographs, manuscripts, or other documents, or for models or samples sent to or left at this office, unless he has specially asked for them.

All drawings sent to or left at this office for consideration should bear the owner's name and address on either the face or back of the drawing. Delay and inconvenience may result from inattention to this.

Any commission to a contributor to write an article, or to execute or lend a drawing for publication, is given subject to the approval of the article or drawing, when received, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

N.B.—Illustrations of the First Premiated Design in any important architectural competition will always be accepted for publication by the Editor, whether they have been formally asked for or not.

FOREIGN AND COLONIAL.

Embankment and School Construction, etc., Spain.

The *Gaceta de Madrid* of January 10 notifies that tenders will be received at the "Dirección General de Obras Públicas, Ministerio de Fomento," Madrid, up to February 3, for the construction of an embankment on the sea front at the port of Corunna, at an estimated cost of 1,498,335 pesetas (about £59,900). A period of five years will be allowed for carrying out the works. A deposit of 74,917 pesetas (about £3,000) is required to qualify any tender. Local representation is necessary. Specifications and plans, etc., may be consulted at the above-mentioned "Dirección General" or at the offices of the Civil Government at Corunna. The same issue of the *Gaceta* notifies that tenders will be opened by the municipal authorities at Vallmoll, on February 12, for the construction of a school building at that town at an estimated cost of 89,548 pesetas (about £3,600). Although this contract will probably be awarded to a Spanish firm, nevertheless the carrying out of the works may involve the purchase of some materials outside Spain.

The *Gaceta* of January 13 notifies that sealed tenders will be received by the "Servicio Central Hidráulico, Dirección General de Obras Públicas, Ministerio de Fomento," Madrid, up to 1 p.m. on February 4, for the supply and delivery of 1,500 metric tons of cement required in connection with the Agujero drainage works. A deposit of 2,000 pesetas (about £80) is required to qualify any tender. Local representation is necessary. Further particulars (in Spanish) may be consulted by United Kingdom cement manufacturers at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, London, E.C., where also may be seen the general specifications and conditions of tender issued by the "Ministerio de Fomento" for the supply of cement required for public works in Spain.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 2 p.m. on Wednesday.* [N.B.—We cannot publish Tenders unless the amount of the Tender is stated.]

* Denotes *accepted.* † Denotes *provisionally accepted.*

BEXHILL.—For erection of an observation pavilion at the new Isolation Hospital, for the Town Council:—

Shannon*	£757

GREAT YARMOUTH.—For reslating roof of the Central Fish Market, for the Yarmouth Port and Haven Commissioners:—

Carter & Wright*	£150

LONDON.—For installing electric lighting apparatus required at the new fire-station which is being erected at West Norwood, for the London County Council:—

W. C. Tackley & Co., Ltd.*	£207

LONDON.—For painting work in connection with the remodelling of Star-lane School, Fulham, S.W., for the London County Council:—

Bovis, Ltd.	£1,125 0 0
McCormick & Sons, Ltd.	1,082 0 0
Maxwell Bros., Ltd.	938 0 0
J. & C. Bowyer, Ltd.	916 0 0
J. Garrett & Son	829 0 0
W. Smith & Son	790 0 0
W. E. Blake, Ltd.	680 0 0
A. H. Inns	659 6 9
Triggs & Co., 92, The Chase, Clapham.*	632 0 0

[Architect's estimate, £755.]

LONDON.—For carrying out certain necessary works of repair at the Cemetery, for the Westminster City Council:—

Myring & Son	£49 0 0
E. H. Brooks	59 0 0
A. Jamieson, Hanwell‡	31 17 6

‡ Recommended for acceptance.

LONDON.—For the construction of new gates and the repair of the existing entrance gates at the mortuary, Horseferry-road, for the Westminster City Council:—

F. Simons	£27 0
Burton Bros.	19 10
W. Wright & Son	19 10
J. R. Sims, Horseferry-rd, S.W.‡	17 18

‡ Recommended for acceptance.

LONDON.—Accepted for the carrying out of various works for the London County Council:—

Clapham—Home for Little Boys. Emergency Staircase.

Triggs & Co.,	£52 0 0

Finsbury, Central—Winchester-street. Painting.

Allen, Fairhead, & Son	£241 10 0

Finsbury, Central—Winchester-street. Electric Lighting.

Napier Kimber, Ltd.	£109 11 0

Hammersmith — Ellerslie-road. Improvement of Heating.

Palowkar & Sons	£96 0 0

Hammersmith—Thornfield-road. Electric Lighting.

J. Whitaker & Sons	£420 11 0

WEYMOUTH.—For erection of boundary wall between Sunnybank Estate and houses, Salisbury and Granville-road, for the Corporation. Mr. K. S. S. Harris, Borough Engineer. Quantities by Surveyor:—

Conway	£287 0 0
Pattinson	283 14 6
Parsons	275 0 0
A. E. Whettam, Weymouth*	265 0 0

TERMS OF SUBSCRIPTION.

"THE BUILDER" (Published Weekly) is supplied DIRECT from the Office to residents in any part of the United Kingdom at the prepaid rate of 19s. per annum, with delivery *by Friday Morning's Post* in London and its suburbs.

To Canada, post-free, 21s. 8d. per annum; and to all parts of Europe, America, Australia, New Zealand, India, China, Ceylon, etc., 26s. per annum.

Remittances (payable to THE BUILDER LTD.) should be addressed to 4, Catherine-street, Aldwych, London, W.C.

Ham Hill Stone.
Doulting Stone.
Portland Stone.
The Ham Hill and Doulting Stone Co., Limited
(incorporating the Ham Hill Stone Co. and C. Trask & Son, The Doulting Stone Co.).
Norton, Stoke-under-Ham, Somerset.
London Agent:—Mr. E. A. Williams, 16, Craven-street, Strand.

Asphalte.—The Seyssel and Metallic Lava Asphalte Co. (Mr. H. Glenn), Office, 42, Poultry, E.C.—The best and cheapest materials for damp courses, railway arches, warehouse floors, flat roofs, stables, cow-sheds and milk-rooms, granaries, tun-rooms, and terraces. Asphalte Contractors to Forth Bridge Co. T.N. 2644 Central.

Russian
AUSTRIAN and JAPANESE
PRIME DRY
WAINSCOT **Oak**
SYDNEY PRIDAY,
KING WILLIAM HOUSE, 2a, EASTCHEAP, LONDON, E.C.
Depot: Wainscot Sheds, Millwall, E. *T.N.: Avenue 667.*

J. J. ETRIDGE, Jr. LTD.
SLATE MERCHANTS.
EXPERTS IN
SLATING, TILING.
AIR RAID REPAIRS.
Telephone: Avenue 4940 (two lines), or write—
Bethnal Green Slate Works,
BETHNAL GREEN, LONDON, E.

OGILVIE & CO., Telephone: DALSTON 1388.
Many years connected with the late firm of W. H. LASCELLES & CO., of Bunhill Row.
Mildmay Works, Mildmay Avenue, Islington, N.
EXPERTS IN HIGH-CLASS JOINERY.
ALTERATIONS AND DECORATIONS. ESTIMATES FREE.

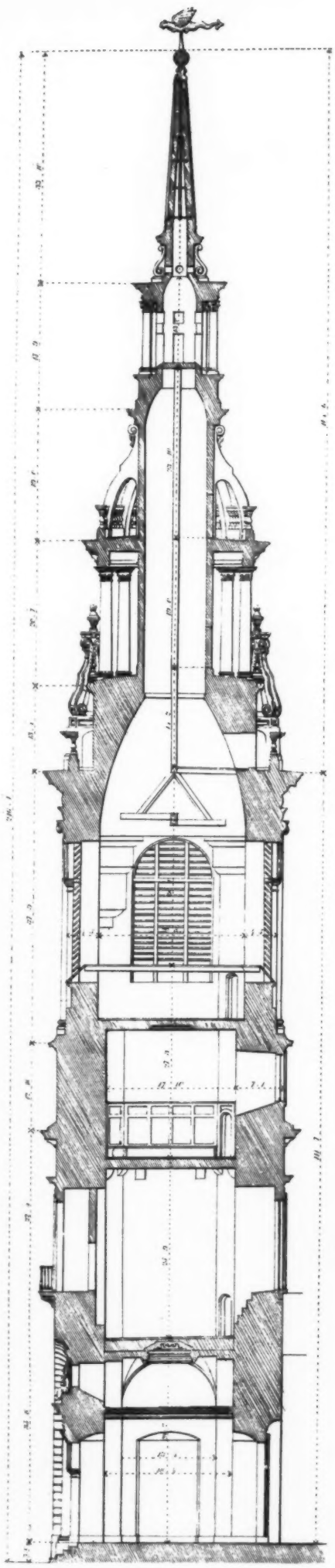
Illustrated Catalogue Post Free on application.

HOT WATER INSTANTLY
NIGHT OR DAY
"EWART'S" GEYSERS
20 Gold Medals and Awards. Established 1834.
Hot Bath in 5 Minutes.
HOT, WARM, OR TEPID SHAMPOO.
EWART & SON Ltd., 346-350, EUSTON ROAD,
Telephone: Museum 2570 (4 lines). Telegrams: "Geyser, London." LONDON, N.W.

THIRD CHURCH OF CHRIST SCIENTIST, CURZON STREET, W.—COMPETITIVE DESIGN BY MESSRS. WILLS, ANDERSON & KAULA, ARCHITECTS.

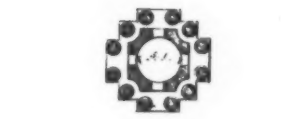
EXTERNAL VIEW.

St MARY LE BOW.



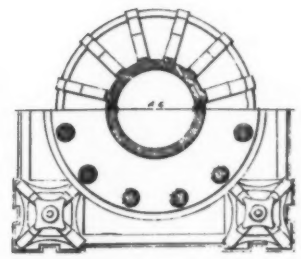
SECTION OF SPIRE

Measured & Drawn by J. Clayton



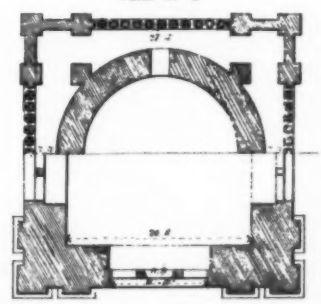
PLAN AT E

PLAN AT D

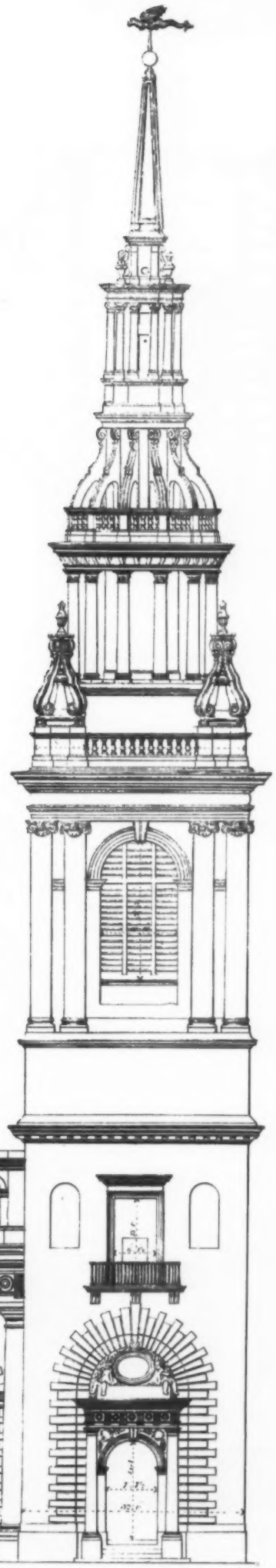


PLAN AT C

PLAN AT B



PLAN AT A

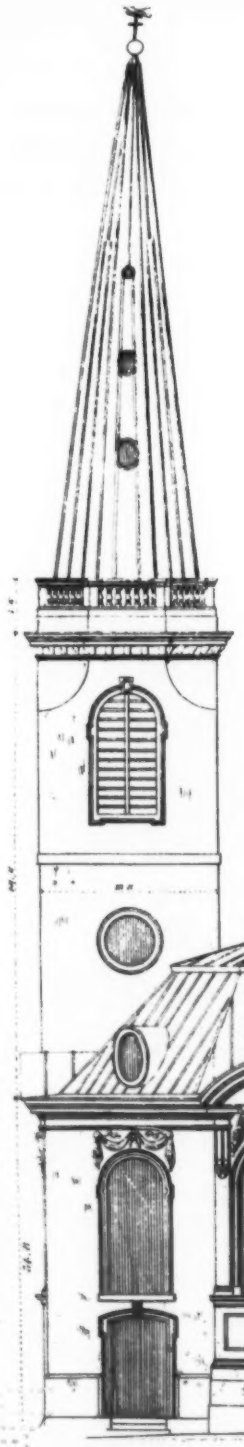


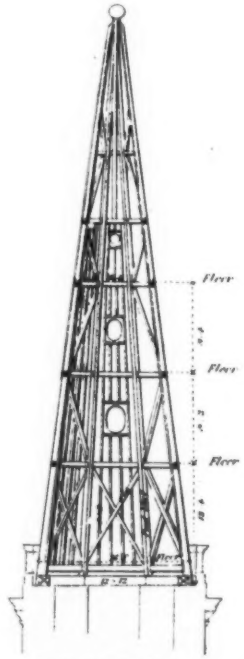
ELEVATION OF SPIRE with the Arcade west Thereunder as originally intended by Sir C. Wren

WREN'S CHURCHES: ST. MARY-LE-BOW.

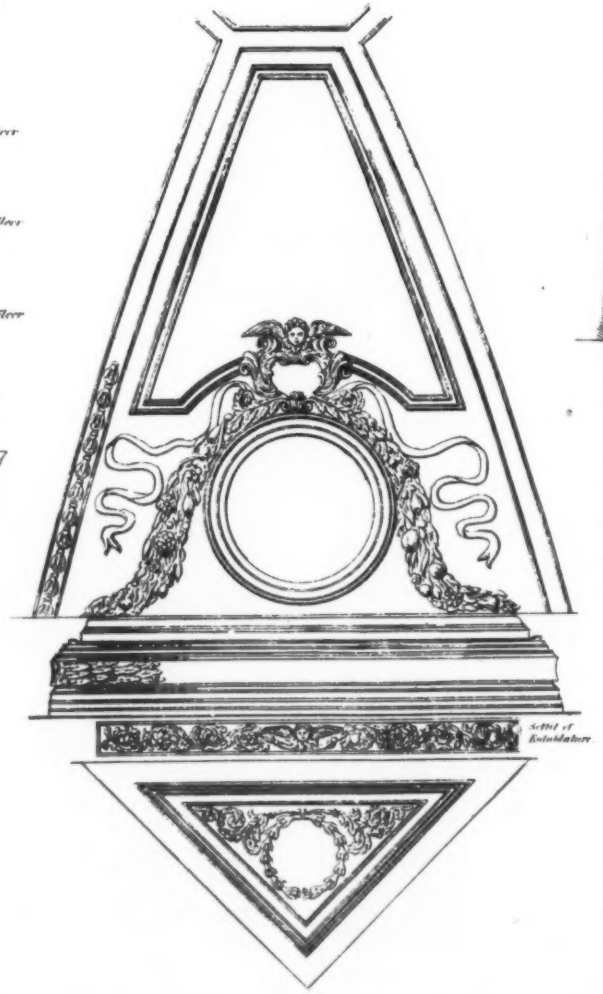
St SWITHIN'S, CANNON STREET.

Elevation Plan & Section to an 8th Scale.

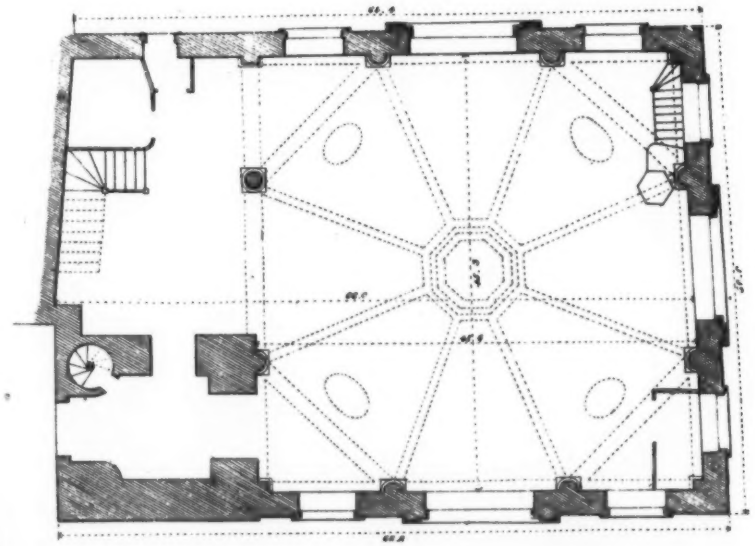




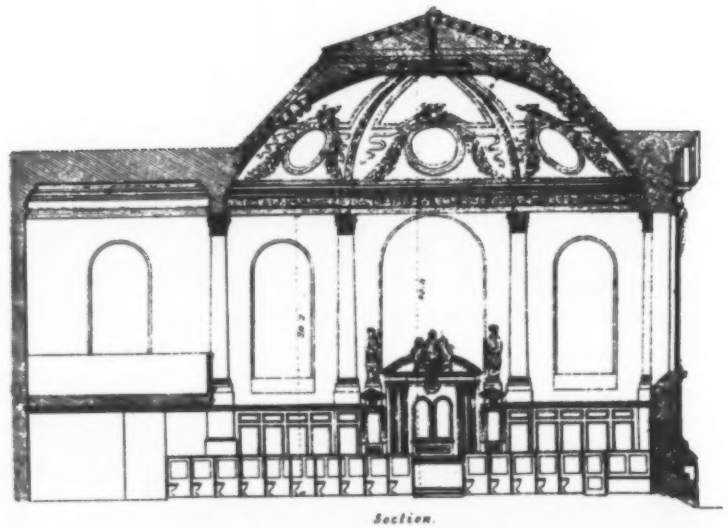
Section of Wooden Spire



Compartment of Dome Entablature Scribd & Anode Cutlines ⅜ Scale



Plan.



Section.

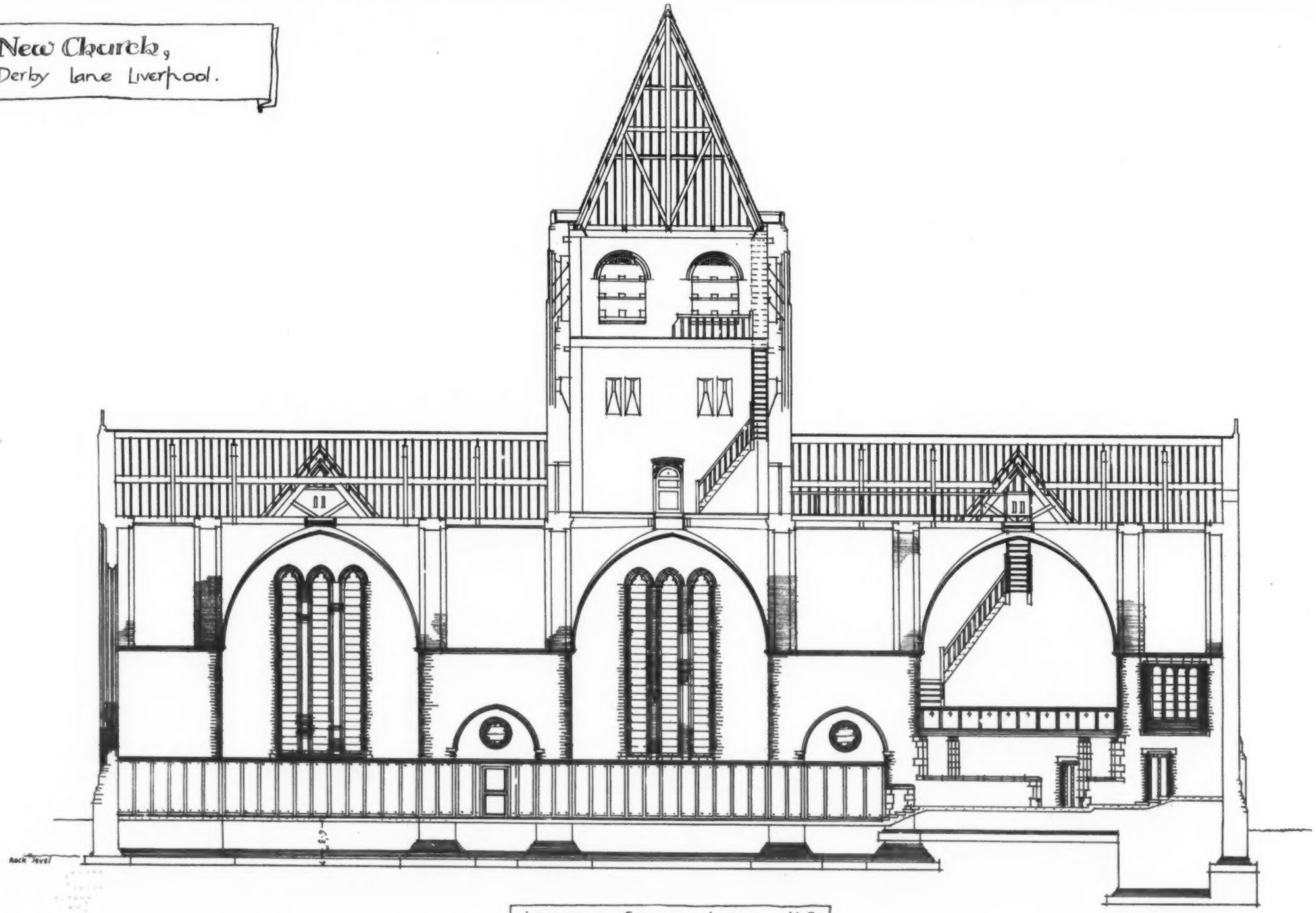
WREN'S CHURCHES: ST. SWITHIN'S, CANNON STREET.

New Church,
Derby Lane Liverpool.

S.W. Elevation

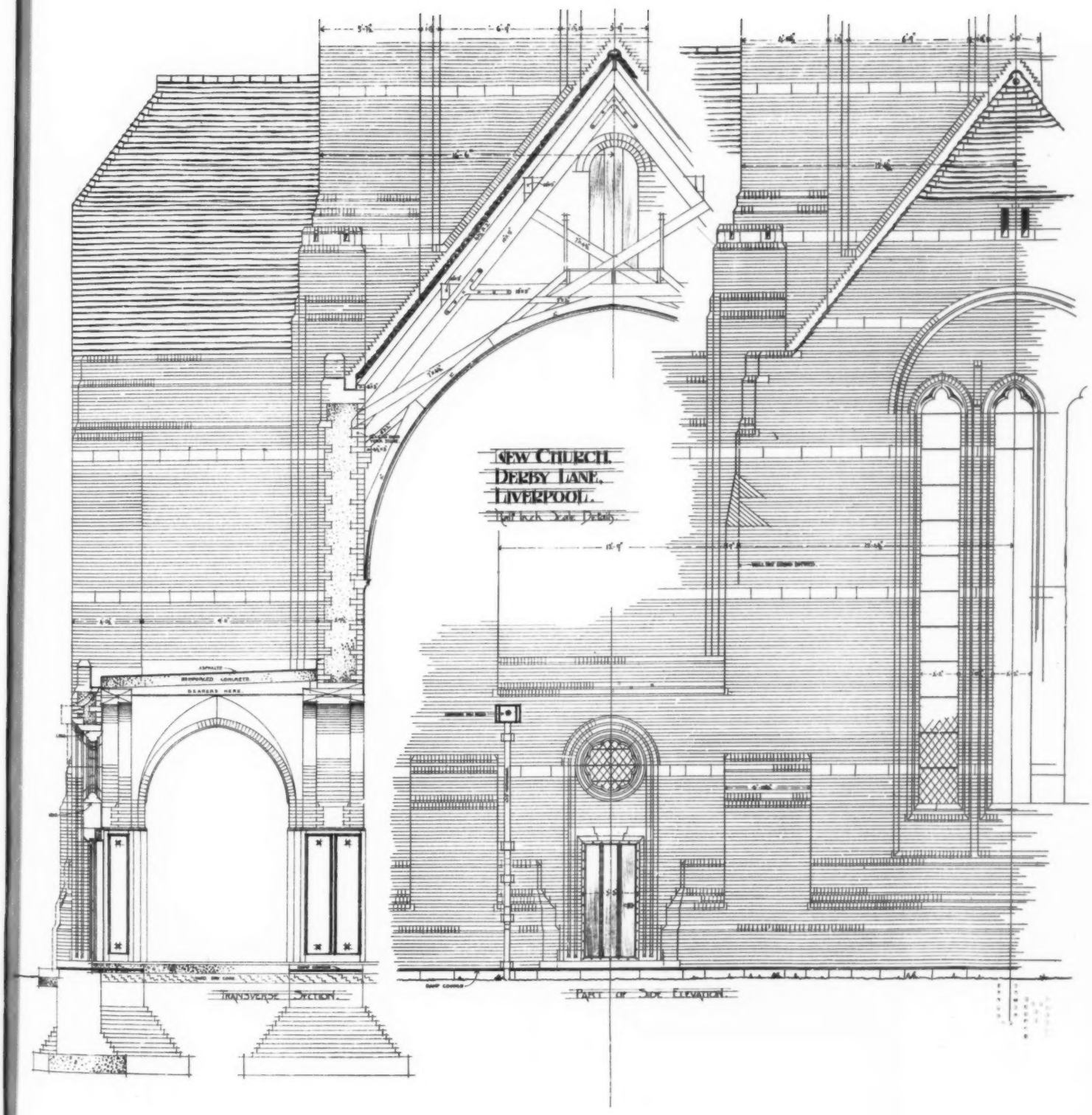
ST. PAUL'S CHURCH, DERBY LANE, LIVERPOOL.—MR. G. GILBERT SCOTT, F.R.I.B.A., ARCHITECT.

New Church,
Derby Lane Liverpool.



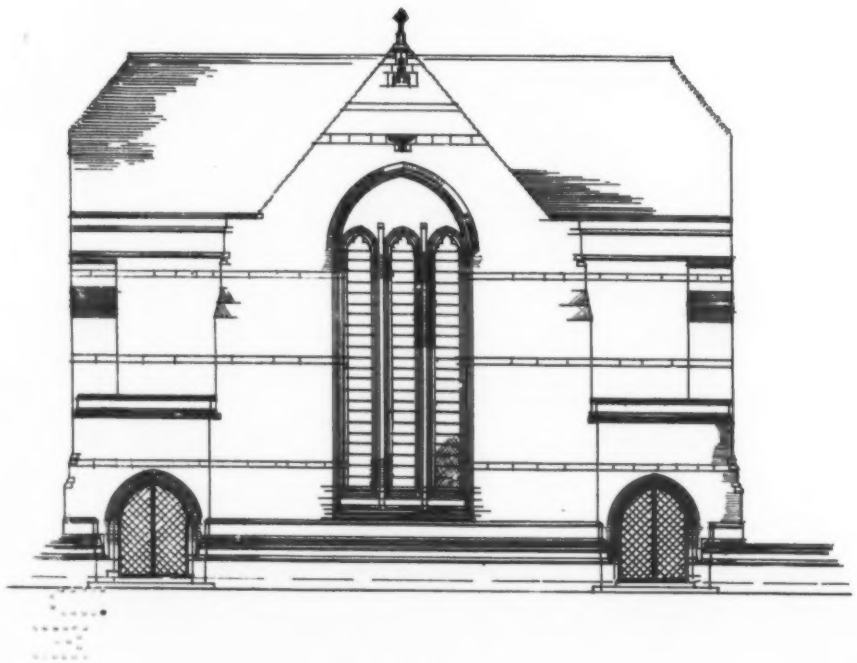
LONGITUDINAL SECTION LOOKING N.E.

ST. PAUL'S CHURCH, DERBY LANE, LIVERPOOL.—MR. G. GILBERT SCOTT, F.R.I.B.A., ARCHITECT.

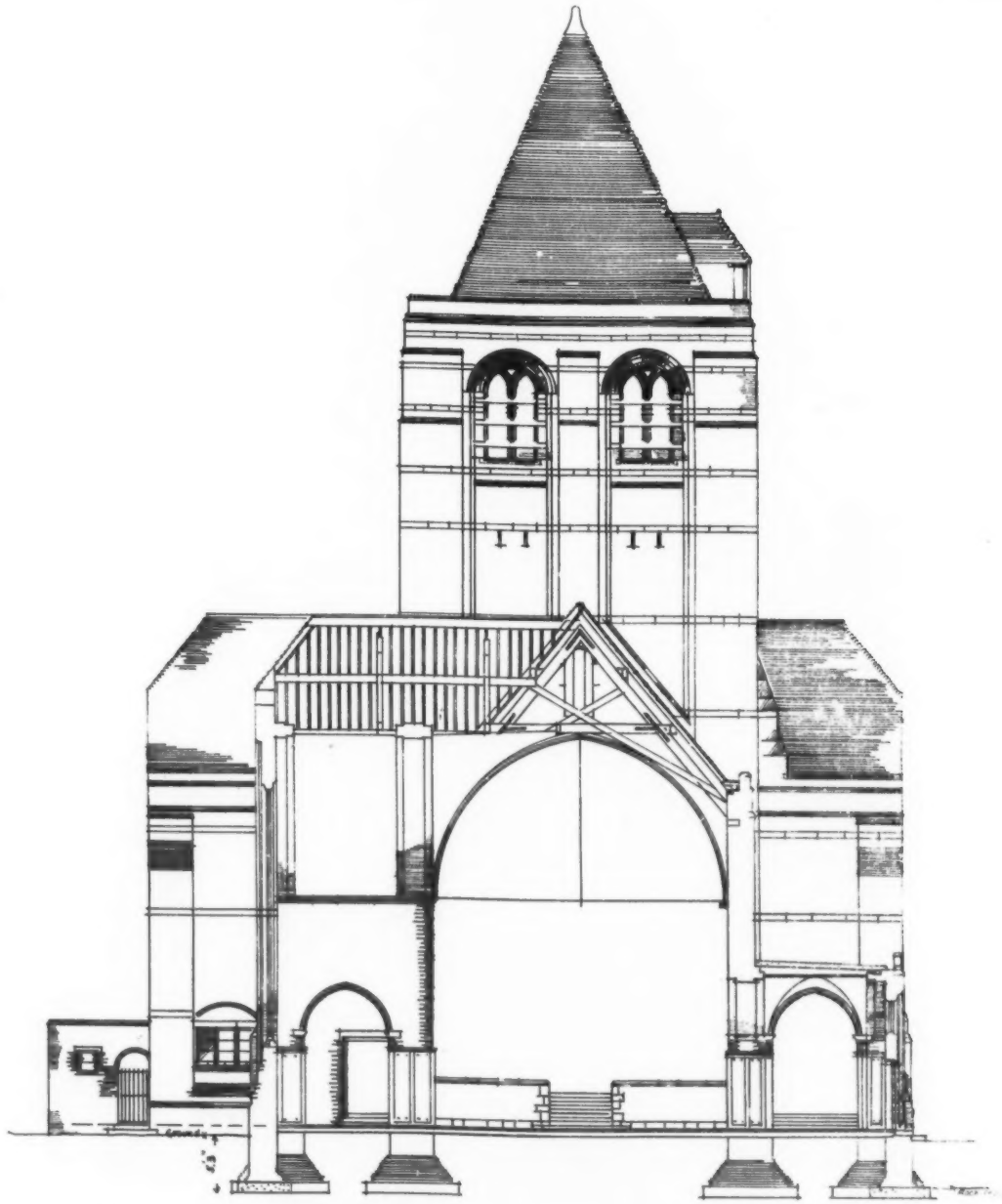


ST. PAUL'S CHURCH, DERBY LANE, LIVERPOOL.—MR. G. GILBERT SCOTT, F.R.I.B.A., ARCHITECT.

New Church,
Derby Lane, Liverpool.

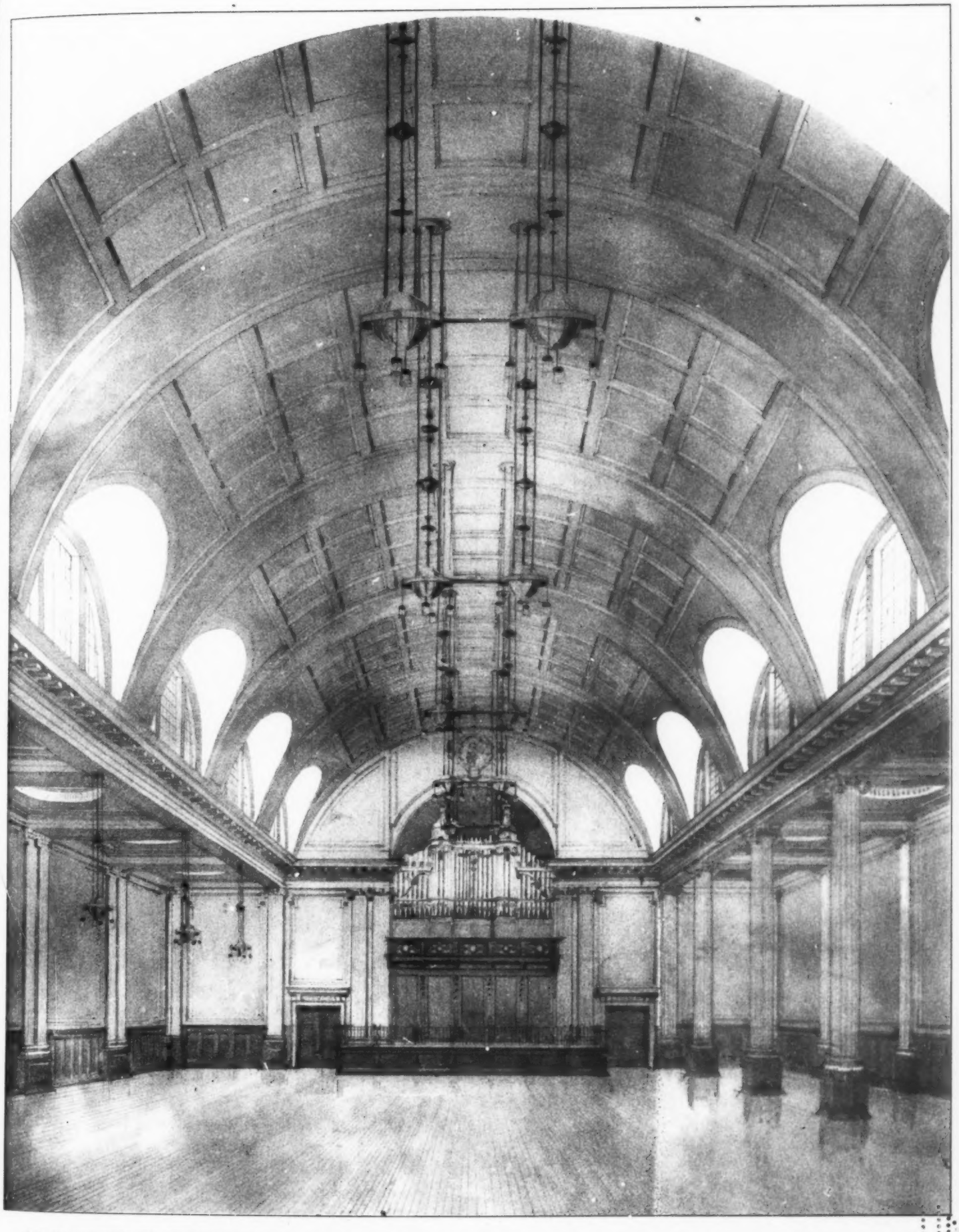


N.W. Elevation



Section A.B.

ST. PAUL'S CHURCH, DERBY LANE, LIVERPOOL.—MR. G. GILBERT SCOTT, F.R.I.B.A., ARCHITECT.



THIRD CHURCH OF CHRIST SCIENTIST, CURZON STREET, W.—COMPETITIVE DESIGN BY MESSRS. WILLS, ANDERSON & KAULA, ARCHITECTS.

INTERIOR VIEW.